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BARN-YARD MANURE.

When a plant is burned, the four *organic* elements, oxygen, hydrogen, nitrogen, and carbon are driven off into the air, while the ten inorganic elements are left as ashes. Consumption by an animal has been frequently compared to this burning process, and to a certain extent the analogy holds true. It has been supposed, by some at least, that the organic elements of the food passed into the atmosphere in the form of breath, perspiration, &c., while the inorganic, or ashes, were voided in the solid excrements. This, however, is true only in part, and gives but a faint idea of the actual process of nutrition. It is true that one half the organic matter of the food is given off by respiration, &c., but it is not an integral half. None of the nitrogen of the food is exhaled in the breath, or given off through the pores of the skin. It is only the digestible hydrogen and carbon of the food which are burned in the lungs and thrown off from the body in the form of water and carbonic acid. The greater part of the nitrogen of the food is found in the urine, while the undigested carbon compounds, (woody fibre, &c.,) are voided, in conjunction with the inorganic elements, in the dung.

Leaving out of the question mechanical action, the composition of the food affords a true criterion of the composition and value of the manure. If clover plowed in would be good manure, clover passed through the body of an animal would be equally good; if straw plowed in is of little value, manure made by animals eating nothing but straw will be no better. Hog and horse manures are known to be of more value than cow and sheep manures. They are so because hogs and horses live on richer food, and for no other reason. A cow or a sheep would make as good manure as hogs or horses if both were fed on the same food and other things were equal.

It is important to ascertain, therefore, what foods make the richest manure. There are many conflicting opinions on this point, which our space will not allow us to examine. *We believe that the value of manure will be in proportion to the amount of nitrogen the food contains.* There cannot be a rational doubt on this point. It is well known that clover is of more value as manure than straw; this is because clover contains more nitrogen than straw. Practical farmers know that manure made by animals eating oil cake and peas is worth more than that made by animals eating nothing but turnips or hay, and this is because oil cake and peas contain such a large quantity of nitrogen. Blood, woolen rags, horn shavings, leather, hair and the carcasses of animals, are all known to be the best of fertilizers. They are so, simply because they contain such a large amount of nitrogen. In fact, we know of no substance containing much nitrogen, but what practical farmers consider, without knowing why, of great value as manure. The value of Peruvian guano is always estimated by the quantity of nitrogen it contains. The more intelligent dealers, before purchasing, always have the per centage of nitrogen determined in various cargoes, and buy that which contains the most. On this point the late Prof. NORTON says that during his stay in Edinburgh, samples from more than 500 cargoes of guano were analyzed in the labratory of Prof. JOHNSTON, and were sold by his analyses, fluctuating in price as they indicated more or less nitrogen. "Had there been any mistake," he justly observes, "in this method of estimating value, experience would soon have detected it."

As nitrogen is such an important element of fertility, we may be justified in giving some account of its action and characteristics. In its elementary state, it is always a gas. It forms 78 per cent. of atmospheric air, acting simply as a dilutent to oxygen. It is inhaled and respired from the lungs without the least change, and is not taken up by plants in its elementary state. M. VILLE, indeed has published the results of careful experiments which indicate that plants have the power of taking up nitrogen, but the bulk of the evidence on this point is against him. It is an indispensable ingredient in all animal and vegetable life. Nothing that possesses organization or vitality, whether animal or vegetable, can be formed without it.

As plants or animals cannot take their nitrogen *as such*, from earth or air, it follows that it must undergo some chemical change previous to its entrance into organic life. This change is the conversion of unorganized nitrogen into ammonia. This takes place under certain well known circumstances, but the operation is so slow and so limited, that it must have taken indefinite ages to form all the ammonia and products resulting from it at present existing on the earth—unless ammonia *was created as such*. But, whether this was or was not the case, is of little importance. We know that nitrogen is organized, and that by the decay of all organic bodies their nitrogen is converted into ammonia—and that this ammonia is taken up by plants and again becomes organized nitrogen.

Ammonia is always formed by the ultimate decay or combustion of a nitrogenous substance, 14 pounds

of nitrogen uniting with 3 pounds of hydrogen, to form 17 pounds of ammonia. It is a gas much lighter than the air, and rapidly evaporates when exposed in a free state. It is an alkali similar in many respects to potash and soda, forming fixed salts with all the mineral and with most of the organic acids, and has a very strong affinity for them. It is rapidly absorbed by water, for which it has a great affinity, though no combination takes place. As formed from decaying substances it always unites with carbonic acid, forming the *volatile* salt, carbonate of ammonia. It is this salt which all have observed on entering an ill ventilated stable after it has been closed for some time. It is what ladies sometimes endeavor to keep themselves awake with in church, stimulating the nostrils when there is little in the sermon to stimulate the brain. If you doubt that the nice clean hartshorn you have purchased of the druggist is the same as that given off from all decaying animal and vegetable substances, get a little moist guano, urine, blood, or any other animal matter, and mix it with ashes or lime, allowing it to stand a short time in a covered vessel, and then see if you can detect the least difference in the smell of the two gases—the one purchased in the city, and the one of domestic manufacture.

Carbonate of ammonia contains all the four organic elements which compose such a large proportion (generally from 90 to 98 per cent.) of all animal and vegetable substances; and it is in this shape that nitrogen is taken up by the plant and and organized into food for animals. This is a strong argument, though we possess a still stronger one, for making and saving as much ammonia on the farm as possible. We know of no modern agricultural improvement, which experience has confirmed as giving larger crops, but what directly or indirectly, brings more ammonia on to the farm or renders that already there more available as food for plants.

As an aid to the farmer who desires to improve his manure heap, we have made up from various reliable sources, the following table, showing the per centage of nitrogen, &c., in various substances used as food and as manure. It is worthy the most careful study and consideration:

	Water	*Dry matter*	*Nitrogen in natural state*	*Nitrogen in dry matter*
Barley straw,	11.0	89.0	0.28	0.26
Oat do	21.0	79.0	0.28	0.36
Rye do	14.0	86.0	0.30	0.35
Wheat do	18.0	82.0	0.33	0.40
Buckwheat do	11.6	88.4	0.48	0.54
English meadow hay,	11.0	89.0	1.15	1.28
Red clover hay,	12.7	87.3	1.83	2.10
Pea straw,	8.5	94.5	1.79	1.95
Carrots,	87.6	12.4	0.33	2.40
Potatoes,	74.0	26.0	0.39	1.49
Mangel wurzel,	87.0	13.0	0.29	2.27
Ruta baga,	88.6	11.4	0.21	1.87
Barley,	16.0	84.0	1.60	1.90
Malt,	7.0	93.0	1.60	1.72
Wheat,	16.0	84.0	1.80	2.14
Oats,	16.0	84.0	2.00	2.38
Indian corn,	18.0	82.0	1.64	2.00
Malt-dust,	7.0	93.0	4.09	4.08
Malt-grains,	6.0	94.0	4.51	4.90
Linseed,	12.0	88.0	3.75	4.26
Beans, peas or tares,	16.0	84.0	4.00	4.76
American oil cake,	11.6	88.4	5.04	5.71

Hair, feathers, leather, woolen rags, horn shavings, dry blood, dry flesh, and fish, from 15 to 17 per cent. of nitrogen.

It will be seen that the straw of barley is the poorest, and that of wheat the richest of all cereals. Pea straw is worth five times as much as wheat straw for manure. Clover hay is worth nearly as much again as English meadow hay. We have no analyses of corn stalks that are satisfactory, and therefore have not given them in the table. The analyses which we have, indicate that the dry stalk contains about 1.2 per cent. of nitrogen, and the dry leaves 2¼ per cent, showing them to be of high comparative value. Of the gramineous grains, barley is the poorest in nitrogen, Indian corn a little better, and oats the richest. Flax seed contains a large per centage, peas and beans still higher, and oil cake the highest of all vegetable substances used for food. Hair, feathers, &c., are most valuable fertilizers, equal in nitrogen to the very best Peruvian guano, and much better than what is often sold as such for $60 per ton. They would be quite equal to good Peruvian guano, but that their nitrogen is in a far less available condition.

In making and preserving barn-yard manure, then, the primary object should be to get as much ammonia as possible; and, as we have before stated, the composition of the food is the true index to the composition of the manure. The more nitrogen the food contains, the more ammonia, or compounds which will ultimately form ammonia, will the manure contain; and therefore, other things being equal, the more profitable will it be for feeding purposes; for in all countries having easy access to the great markets of the world, no farmer can afford to feed cattle unless the manure be accounted of some value.

The first object of the farmer in making manure, will be to give his animals those kinds of food which, other things being equal, contain the most nitrogen. The next most important point is, how to treat the manure so as to retain all the valuable elements it contains, and at the same time reduce its bulk as much as possible by fermentation. The last consideration is seldom mentioned by theoretical writers, but it must not be forgotten. It is intimately connected with the expense and profit attending the application of manure. If, as we assert, the carbon of the manure is of little value on a wheat farm, and its water of no value; and if carbon and water compose four-fifths of all unfermented barn-yard manure, as we know they do, it cannot but be to our advantage to reduce their quantity, if it can be done without loss to the valuable portions of the manure.

The most valuable part of the excrements of animals is the liquid. More loss is sustained by allowing this to run to waste than in any other one thing. Rapid fermentation in a loose heap is another source of loss. Allowing the eaves water to run on and leach out the soluble portion of the manure is another common mal-practice. These three evils every one familiar with agriculture must have observed. The loss to each individual farmer by such mismanagement is great, and viewed as a national question, is most appalling. The direct loss to the farmers themselves, in the aggregate, is immense; while the indirect loss to the country is positively inestimable. To prevent this loss, we must in the first place, save the liquid excrements. This is a problem which has puzzled the most scientific farmers of the age. The difficulty is much greater in England, where turnips, containing 90 per cent. of water, are used for stall feeding, than with us. Here, if the buildings are all spouted, the greater part of the liquid of the animals and the rain falling on the surface of the yard may be absorbed in the course of the year. To do this, the bottom of the yard should be covered with dry peat, muck, saw-dust, waste straw, potato vines and numerous other absorbent substances which can be

found on most farms, and which, valueless in themselves, can thus be made into enriching fertilizers. The bottom of the yard should gently slope to one point where a tank must be built. In this, the superabundant liquid of the rainy season can be preserved, and pumped back on to the heap when it needs it.

In the second place, we must keep up a gradual and slow fermentation, keeping the heap as near as possible at a temperature of 90° to 100°. If horse or sheep manure be thrown up loosely, so that there is a free admission of air and moisture, rapid and most injurious decomposition takes place, with evolution of carbonate of ammonia and water. This burning process (for it is nothing less than a slow process of actual combustion) may be allowed to go on till the heap is reduced to a comparatively worthless mass of humus and ashes. On the other hand, if hog and cow manure be thrown into a *solid* heap, little or no fermentation will take place, and the mass will remain in a raw state, unsuitable for direct application to rapid growing plants. The first object of the farmer, therefore, should be to mix these several manures together, so that the horse and sheep manure shall act as a ferment, and induce the desired decomposition in the hog and cow manure. In this way they will be beneficial to each other, and the heap by spring will be in good condition for direct application to corn, potatoes, &c. Sheep do not like to lie on a fermenting manure heap. They should, if possible, have a separate yard to run in at night, and the manure they make be hauled back to the common heap as often as practicable, fresh straw being supplied in its place. If necessary, sheep and cattle should run on the manure heap in order to compress it and prevent too rapid fermentation. If these conditions—spouting the buildings to prevent leaching, having a tank to save the liquid which straw and other absorbents will not retain in wet weather, and mixing the different manures together in a compact heap, so as to sustain a slow and prevent a too rapid fermentation were complied with, the value of the manure on most farms would be doubled.

To convert the volatile *carbonate* of ammonia into the non volatile *sulphate* of ammonia, has occupied the attention of the most profound chemists of the age. Many plans have been proposed, but none of them, so far as we are informed, are practical and economical. Sprinkling the heap with dilute sulphuric acid has been proposed. This will convert all the carbonate of ammonia existing in the heap at the time of application into a sulphate, but it will prevent fermentation and the formation of any more carbonate of ammonia. This plan, therefore, will not accomplish the object. Sulphate of iron (copperas) has been often proposed. It will answer well in a chemical sense, but not in an economical one. The copperas costs too much to make its application profitable, and the presence of the iron in the manure is injurious rather than beneficial. Superphosphate of lime, with an extra proportion of sulphuric acid, made on purpose, we have used with success. As a general thing, however, we think its use would not pay. "But," the reader exclaims, "you are forgetting sulphate of lime, (gypsum.) I have seen it stated time and again, in agricultural papers, as well as in 'LIEBIG's Agricultural Chemistry,' in 'STOCKHARDT's Chemical Field Lectures,' in 'The Progressive Farmer,' and in every other work I have read on this subject, that plaster scattered in stables and on manure heaps, would arrest all the escaping hartshorn, and convert it into a fixed salt. Gypsum is cheap, and the application so easy that we cannot desire anything better for the purpose." That is all true, except in one particular; *plaster*, UNLESS IN SOLUTION, *will not convert the carbonate of ammonia into a sulphate of ammonia*, LIEBIG, STOCKHARDT and NASH, and the agricultural papers to the contrary notwithstanding. We are exceedingly sorry that it will not. It would be such a great advantage to the farmer. By its aid, he could reduce his whole manure heap, by fermentation, to a few wagon loads, and it would be so strong that a few bushels would be sufficient for an acre, saving an immense amount of labor and expense in hauling it to the field, &c.

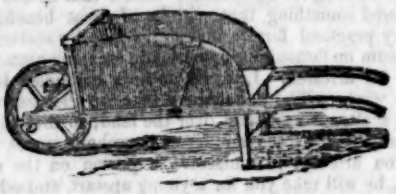
"But can it be possible that such able chemists have made so great a blunder?" It is easy to account for this fact. Chemists always work with their re-agents in solution, and sulphate of lime *in solution* will convert carbonate of ammonia into carbonate of lime and sulphate of ammonia. Such being the case, the chemist, stung with the taunt, "Chemistry has done nothing for agriculture," asserts that he has discovered something that will be of great benefit to every practical farmer, and states that by scattering gypsum on fermenting manure, the escaping ammonia will be arrested. Learned authors embodied it in new works. The newspapers take up the assertion and scatter it broadcast over the land; so that at the present time it is as familiar as household words, and if you attempt to undeceive a person on the subject, he will take you for a young upstart, and advise you to speak a little more respectfully of the great teachers of science!

Scattering dry or moist plaster on the manure heap, then, is of little use. But if we could only dissolve it, it would be just the thing we want. Cannot this be done? It is true that something like 400 pounds of water are required to dissolve one pound of plaster, but cannot the water be used over and over again, the manure taking the sulphate of lime from the water as it is filtered through it? The water in the tank should always be kept saturated with gypsum. In this way plaster sufficient to form a considerable quantity of sulphate of ammonia might be placed in the heap without rendering the manure too wet for fermentation, inasmuch as the carbonate of lime resulting from the transformed sulphate of lime would materially assist decomposition. This method will not only preserve all the most valuable substances of the manure, but it will enable the wheat growing farmer to drive off a great part of the valueless portion of the manure—carbon and water—and so reduce the weight and bulk of the heap, and the labor and expense of applying it to the soil. Manures managed in this way, and fermented to the extent proposed, may be used as top dressing with little, if any loss. On loamy soil, it may be drawn out in the fall—the comparatively leisure season of the farmer—and spread on the land, ready for plowing in for corn, potatoes, &c., the next spring.

To carry out successfully the plan of preparing manure which we have briefly attempted to sketch, it will be necessary to have the farm buildings arranged with this object in view. As a general thing, at present, the barn and cow house, the stables, the piggeries, and the sheep yard, all occupy separate places, often quite a distance from each other. This ought

not so to be. They should all open into, and encircle a common yard, having a southern aspect, and containing a good range of open sheds for young cattle, &c. The importance of this cannot be over estimated. As we now write, our kindling enthusiasm for agricultural improvement is nipped in the bud when we think of the miserably arranged farm buildings common throughout the length and breadth of the land. We have innumerable handsome barns with domes, venetian shutters and glass windows, which an Englishman would mistake for a dissenting chapel or a country school house, but we have very few really good, well arranged, substantial farm buildings. We do not desire to see expensive buildings, but such as are simple, plain, and substantially arranged for convenience, utility and profit. You cannot make the *most profit* on your farms, inasmuch as you cannot make good manure, the sheet anchor of all good husbandry, without them.

Another requisite for carrying out our system is—*a good wheel-barrow.* Reader, you probably have not got one. Few farmers have. Perhaps you have a common dirt barrow. This is better than nothing, certainly, but is not worthy a place in any respectable barn-yard. Do get a good one, with a large flat bottom, a high front-piece and deep side boards which can be taken off at pleasure. Such a one as is represented in the annexed cut. Then when you clean out your stables, do not throw the litter close to the entrance, where it will lie in a loose heap, and spoil by rapid fermentation, but get your new wheelbarrow and take the litter to a distant part of the yard where it will be mixed with the litter of the pig pens, cow house and sheep fold. The advantages of such a mixture we have already explained.



The system of managing manure here imperfectly sketched is adapted rather to a wheat growing section, and for farms where a large quantity of straw is raised, and which is all used on the farm, than to the New England States, where scarcely enough straw is produced for bedding, even when the most rigid economy is practised. We have no great love for manure cellars, but where straw is scarce and muck plentiful, they have some advantages. In them, as in the open yard, the chief objects of the farmer must be to absorb all the urine, and prevent a too rapid fermentation of the dung. If a considerable number of cows and hogs are kept, and their manure is well mixed with the horse dung, the latter will be easily accomplished; and by spreading a little muck over the surface of the heap occasionally, all the ammonia can be retained; but where horse dung is loosely thrown into the cellar, it will rapidly decompose, and much ammonia will be given off. It is vain to suppose that the cellar can be kept so close as to prevent the escape of ammonia. The only way this can be accomplished is by employing the so called fixers—sulphate of lime in solution, as we have said, is the best—or by the use of absorbents, straw, muck, charcoal, &c.

We cannot resist the conviction, however, that farmers as a general rule, will not employ chemical means to retain the ammonia in manure, and we believe there is less necessity for doing so than is commonly supposed by scientific writers, if the manure heap is judiciously managed. Prof. Wolff says: "By maintaining the manure moderately moist throughout its entire mass, a fertilizer will be produced, preserving almost entirely the original virtue of the manure, and in a form well adapted to promote the growth of crops; and this without employing chemical fixing-agents, as plaster, sulphuric acid, &c., whose application on a large scale is often too costly and troublesome. Swamp muck, peat, brown-coal powder, or any earth rich in vegetable matter may be economically employed to assist in retaining ammonia. Whichever material be used, it should be strewed as a thin coating over the surface of the manure, from time to time during the summer; and be kept moderately moist by occasional drenchings with the contents of the cistern."

Although Prof. Wolff thinks that "where yard manure and composts are skillfully prepared, the loss of ammonia is very slight, even without the use of fixing agents," yet he cites the experiment of Dr. Krutzsch to show the extent to which ammonia is given off when common liquid manure is allowed to ferment unmixed with fixing or absorbing agents. He found that the solid residue remaining after the evaporation of perfectly putrid yard liquid, gave 3½ per cent. of ammonia, while the same liquid treated with an acid (fixer) before evaporation gave a residue which contained 12½ per cent. of ammonia. In the Rothamsted experiments, if we recollect right, sheep urine, evaporated without acid, lost even a still greater amount of ammonia. Yet we should be careful how we apply such results to common practice. It is known that water will hold a large quantity of ammonia, and we believe the loss of "this spirit-like essence of the farm, ever struggling to be free," from fermenting common barn-yard drainings is much less than the above figures indicate, yet it is sufficiently great to warrant the use of any cheap method of fixing it, such as the one we have suggested by the employment of sulphate of lime in solution.

We would just add that though we dwell so much on the importance of nitrogen in the manure, we do not underrate the value of the inorganic elements, which are of course indispensable to the growth of all plants. We speak more directly about nitrogen, because we think it of greatest importance, and because we know there is no way of increasing its amount on a farm, without at the same time increasing the amount of inorganic elements; and also, that there is no way of judiciously preserving and fermenting the nitrogen without at the same time preserving the inorganic elements and rendering them in a better state for assimilation by the plant. Especially is this true of the phosphates and silicates. Nitrogen and phosphoric acid generally exist in the same ratio in most substances used for food or for manure; while the solubility of the silicates is greatly increased by fermentation in the manure heap.

Clover Seed.—The *Working Man*, an excellent agricultural paper, published in Indianapolis, Ind., states that the crop of clover seed in that vicinity was a complete failure last year, the grasshoppers having destroyed what little the drouth left.

COST OF RAISING CATTLE.

The following extracts from the *Patent Office Report* for 1855, just issued, will be read with interest:

Samuel J. Fletcher, Winchester, Clark Co., Mo., says: "Stock in general, in this county are very badly treated, being fed merely on straw and late-cut prairie grass, with no cover to shelter them during the inclement season. I consider a cross from the Durham breed the best, being fine milkers, good workers, and profitable for the butcher. A promising bull calf from the "Clay" stock, at six months old, is worth about $35, while one of the common breeds is valued at only $5 or $6. For seven or eight months in the year, our luxuriantly rich prairie grass furnishes such excellent pasturage that I have sold steers to the butchers, giving six hundred and fifty pounds of prime beef at three years old. Prairie grass, when cut early and salted, also makes excellent hay."

D. R. Stillman, Alfred Centre, Allegany Co., N.Y., says: "Calves are usually weaned when two or three months old, when they are turned out to grass. The first winter they are fed with hay and a little meal or roots. The second and third winter they are kept mainly on straw, and the autumn following are sold directly from the pasture, as the fattening of cattle here for the butcher is not extensively practiced. The cost of raising a bullock to three years old, is about $7 a year, at which age he will bring from $25 to $40. The cost of transportation to New York, by railroad, when there are more than one, is $13.17 each."

A Committee of the Farmer's Club, of Bedford, Westchester County, N. Y., consisting of Messrs. Haines, Holmes, Howe, Green, and Dickinson, says: "A good demand has always existed with us for veal calves for New York market; so much so, that a fat calf from four to eight weeks old would sell for as much as it would at a year old, treated in the ordinary way, say from $10 to $15. Indeed, the demand has been so great, for a few years past, that buyers are in search of them at a much younger age, at prices from $1 to $4 a head. A common price has been from four to six cents a pound, live weight. The kind of stock now most profitable for us to raise, is cows, as they are in great demand for milk dairies, for the supply of the New York market. The cost of raising will average, at one year old, about $12, valued also at $12; at two years $20, valued at $25; and at three years old, $30, and valued at $30 or $45 each. The cost of transportation to New York, by railroad, is about $1.50 a head. We find the Devons to be the best stock for labor, or their cross with other breeds.

John Young, Jr., of Forest Grove, Allegany Co., Penn., says: "Good milch cows, this season, range from $25 to $50; cost of raising to the age of three years is about $15."

James McK. Snodgrass, of Mifflin, Allegany Co., Penn., says: "The cost of raising a heifer till three years old will average $15, and the price at that age is from $15 to $25.

J. S. Gore, of Tippecanoe, Fayette Co., Penn., says: "It costs about $6 to keep a calf the first year, $8 the second, $10 the third, and $11 the fourth, making $35. Formerly, they were worth, at that age, from $12 to $25. Many of the farmers resorted to having them grazed in the mountains, where it cost but $1 a summer, during which they lost several head; the cattle were wintered on straw, and some died before spring. But the farmers were satisfied that they cost only $1 a head at the mountains; and the straw had no other value. Our Durham cattle command about $50 a head at two and three years old."

John B. Brush, of Sheakleyville, Mercer Co., Penn., says: "The cost of raising cattle till three years old is $15, which is about the price of good ones at that age. Good cows bring from $20 to $25 in the spring, and from $12 to $15 in the fall."

Charles Foster, of Jasper, Marion Co., Tenn., says: "The Cumberland mountain, at its summit, presents a beautifully rolling table country, about forty miles across, at this point, watered with innumerable branches, the heads of the valley streams of this region. The climate is unsurpassed in America. As a grazing region, I know of none equal to it. Indeed, thousands of cattle and hogs are fattened on the range, which is inexhaustible, every year; and, as a general thing, the temperature and other circumstances are such that cattle can be wintered without being fed. I make this statement advisedly, and from positive experience."

John Brooke, of Sherman, Grayson Co., Texas, says: "The cost of rearing neat cattle till three years old is about $1.50 per head. This is for the attention given to them, as we do not feed them at any season. Some do not even salt them. The price at three years old is from $12 to $15. The value of good dairy cows in the spring is from $15 to $20."

James E. Kendall, of Poplar Grove, Kanawha Co., Va., says: "I am of the opinion that our "scrub" breed suits our mountain range the best. The cost of raising cattle is about $3 a year. They sell from $18 to $20 at four years old. Steers, when broken, are worth from $80 to $100 a pair. Mules are raised with as little expense as steers, and are worth from $100 to $150 a head at three years old.

Too Much Seed Corn.—Last spring the cold, wet weather and mice destroyed more than half of my seed corn. The result was, one-third of the hills missed entirely, another third had one kernel of corn growing, while the other third had two, three, four, and five kernels growing. Where there was one and two kernels of corn to the hill growing, I had the best specimens of corn, for many of the hills that had one kernel growing had a sucker and the main stalk; the sucker would have on always one good ear, and the main stalk would have two and a half ears of well filled corn; and where I had four and five stalks to the hill, I had no more ears of corn than where I had one and two stalks; and I could plainly see that where there were four and five stalks to the hill the corn was not as sound nor as well filled out in the ear as where there was a less number. A. L. Smith—*Nichols, Tioga Co., N. Y.*

Remedy for Scab in Sheep.—G. B. Tunison, of Bellevue, Nebraska, writes us that he has cured sheep of the scab by giving them a mixture of four pounds salt, and one pound alum. The ingredients should be pounded up fine, and given to the sheep in the same way, and in about the same quantity as common salt.

COST OF RAISING AND KEEPING SHEEP AND PRODUCING WOOL.

We extract the following estimate of the expense of raising and keeping sheep, and producing wool, in different sections of the country from the last *Patent Office Report:*

D. L. R. Butt, of Centre, Cherokee Co., Ala., says: "The cost of producing wool, in this section, is about 12½ cents a pound, and the market value, 25 cents. There is no article that can be produced in this region with so little care and cost, according to the market price, as wool, and I am surprised that there is not more attention paid to its production."

D. R. Stillman, of Alfred Centre, Allegany Co., N. Y., says: "Sheep are kept in pasture from seven to eight months, and the remainder of the year on hay and straw, the younger portion of the flock usually receiving, daily, a small quantity of grain. The cost of keeping a sheep will vary but little from $1 a year, and at two years old it will sell for $2 from pasture, leaving the wool for the profit. Good wool can be produced at a less expense of keeping and labor than poor, as the fleeces are heavier, while the sheep are more quiet and consequently require less food. The cost of raising from three-fourths to full-blooded Merino wool, is about twenty-five cents."

John Young, Jr., of Forest Grove, Allegany Co., Penn., says: "Sheep are profitable stock with us. We have some full-blooded South Downs and Leicesters. From what I have seen of their crosses upon the common stock, I think a very great improvement will be the result. They prosper in every part of the country. Last year, 1854, their wool was worth 33 cents per pound. The cost of raising them is 75 cents per head, and when full grown they are worth $2 each."

J. S. Gore, of Tippecanoe, Fayette Co., Penn., says: "It costs about $1.50 a head to keep sheep properly for a year, while wool is worth about forty cents a pound; so that it is evident that sheep-clipping, at two and a half pounds a head, leaves no profit. But our improved breeds, which yield from four to twelve pounds per head, pay very well. Besides this, I find that my French sheep raise about three lambs per head, annually."

["Three lambs per head, annually!" Is not this a mistake?]

R. W. Baylor, of Wood End, near Charlestown, Jefferson Co., Va., says: "Sheep are very profitably raised in this section, especially the improved breeds, commanding, at home, from $8 to $10 each at two years old. We have as good imported Cotswolds and South Downs as England can produce, the latter being preferred. Their crosses upon our common stock are regarded as highly advantageous. Wool growing amply remunerates the shepherd for his care. Wool cannot be raised under twenty cents a pound."

James E. Kendall, of Poplar Grove, Kanawha Co., Va., says: "This is decidedly a fine sheep-raising county, but the subject has not received the attention it merits. The cost of producing wool, I believe, does not average more than 12½ cents per pound. Our sheep are seldom fed. They keep in fine condition the whole year on the mountain range. They are free from disease, and live to a good age Wool is worth from thirty to thirty-seven and a half cents per pound."

A PROFITABLE FLOCK OF SHEEP.

On the 17th of July, 1855, I purchased of H. Lounsbury, of this town, twenty yearling ewes, at $1.50 per head. They had been confined, with eighty-eight other sheep, in a field of fifteen acres up to the day of purchase. In consequence of this strict confinement, they were poor in flesh and small in size. By careless management in the previous spring, they all lost their lambs, and were themselves affected with disease. I drove them home, and turned them into middling fair feed for one week, and then changed them again into full fresh feed. The result was, thay did not scour, but grew and fatted remarkably fast; for, in the following October I was offered $2.50 per head. Here, you observe, was an improvement of one dollar a head in three months.

On the 1st of December I turned in a buck of the same breed. The first day of May, 1856, I had no lambs, but on the tenth of the same month I had eighteen lambs, all large, fat, and running about. I will here state that these ewes had six quarts of grain per day from the 15th of February to the 10th of May. This feed consisted of corn, oats and buckwheat, in equal parts, and as much good timothy hay besides, as they wanted. In consequence of careful management and good feed, the ewes were in fine condition when they bought forth their young, and gave a large flow of milk, which caused the young lambs to grow with great vigor. To-day, November 20th, I was offered $2 per head for the lambs, and $3 for the ewes, and at ten rods distance from the flock you could not tell the lambs from the old sheep.

These ewes turned off fifty-nine pounds of wool, which was sold for thirty-five cents per pound. Now let us figure up the profit on these twenty ewes, from first cost, and throw out all other expenses.

20 two year old Ewes at $3 per head,	$60.00
18 Lambs at $2 per head,	36.00
59 lbs Wool, at 35 cents per pound,	20.65
Total.	$116.65
Substract first cost on ewes.	30.00
Profit,	$86.65

Almost every farmer can judge correctly of the expense of keeping these ewes during the past sixteen months. They are half native and half South-down. They are all healthy to-day, and fit for the shambles. A. L. Smith.—*Nichols, Tioga Co. N. Y.*

A Good Dairy.—At the winter meeting of the Cortland County Agricultural Society, premiums were awarded to two brothers named Conable for the best cheese dairy, averaging five hundred and ten pounds of butter per cow. The best dairy of butter was from seventeen cows, and averaged two hundred and one and fifteen-sixteenths pounds per cow. Mr. Geo. Miller, with a large dairy averaged one hundred and ninety-eight pounds per cow. What county beats Cortland? W. H. Gardner.—*Hornby, N. Y.*

WINTER EVENING NOTES

Friend Harris:—To while away a stormy evening I will sketch a few notes on some of the contents of the December number of the *Genesee Farmer*.

Turkish Flint Wheat.—The *Patent Office Report*, for 1855, says: This wheat is a heavy fall variety, with a dark-colored chaff, a heavy beard, and long, flinty, light-colored berry, &c., &c. I beg to say I received six varieties of winter wheat from the Patent Office in the spring of 1855; sowed them in the fall. The package labelled "Turkish Flint Wheat" proved to be a white-bearded variety. It most winter-killed. A package labelled "Pithusian Flint Wheat, from the island of Ivica," stood the winter very well; short, barley-looking heads, with enormous beards, from nine to twelve inches long; the chaff and beards as black as the ace of spades. The description in your paper of the Turkish Flint Wheat is an accurate description of my Pithusian. There seems to be a mistake somewhere; I am sure I have made none.

Rats and Mice, K. N. says, "are very abundant and voracious all over Western New York, and asks, "what will become of us if they go on increasing another winter." In the years 1850 and 1851 this section of the country was overrun with "rats and mice;" the damage done to fruit and forest trees, by their debarking them, and the loss in hay and grain, and other farm crops, was immense. So abundant were they in those seasons, that the boys became wearied out in slaying them; and all our cats were surfeited into uselessness by a superabundance of mouse-meat. A fact!

The following winter, no injury was done to fruit or other trees, or grass-lands, nor the next summer, nor since, have they done any damage to the grass-land, either summer or winter.

Where such myriads of *varments* came from, and where they went, none can tell; and what "besom of destruction" was called into requisition to thus suddenly sweep them from our midst, is a mystery that none can solve; all we know about it is, the next year they were "*non est inventus*."

Large and Small Potatoes.—Mr. J. H. Hamilton gives a sketch of his experience in planting large and small potatoes. The produce of the large potatoes was one-third greater than that of the small seed. He is "inclined to the opinion that large potatoes are preferable for seed." No doubt he is right in his opinion. It is a general law of nature that "like begets like," though it is well known there are exceptions to all general rules.

In the *Irish Farmer's Gazette*, 8th November, a Mr. Dixon gives the result of his experiments in planting large and small seed potatoes the past season. The large potatoes selected weighed about half a pound each—planted exactly a yard apart, each way; product, a few pounds short of eight tons per acre. The small seed, either whole or cut in the usual way, yielded seven tons per acre. The sample from the large seed were *decidedly* the best.

Sowing Mountain Ash Seed.—My experience in sowing mountain ash seed accords precisely with that of your correspondent, G.

Two Modes of Planting and Managing Fruit Trees, is drawn to the life. I've seen the very thing on a large scale, more than once. But my neighbor, "Old Max," says "there's as much difference in folks as there is in anything." This *fact* explains the difference between Farmer Slapdash and Farmer Forecast.

Chinese Sugar Cane.—Col. Peters wrote to me a few days since that he intends to plant about one hundred acres the coming season, for the purpose of manufacturing syrups.

Your "Fair Correspondent's" essay on "cutting hay" is a whole volume in a nut-shell. Please send her two books; it will be cheap at that.

Balsam Fir Trees."—I have transplanted a great many; usually mine have grown but a few inches the two first years after being removed, but go-ahead after that.

Locust Trees from Seed.—To insure germination the seed should be put in a suitable vessel, and nearly boiling water turned in sufficient to cover the seeds. Let them soak twelve hours; sow about the time of planting corn, in well-prepared ground, in drills three or four feet apart; by use of the cultivator and hoe, keep the land light and free from weeds. Levi Bartlett.—*Warner, N. H. Dec.* 3, 1856.

Mulching Potatoes with Straw.—*Eds. Genesee Farmer.*—Having seen the advantages of covering potatoes with straw this season, I deem it of sufficient importance to jot a few lines to your (or rather our,) paper on the subject. The ground selected for the purpose was a side-hill facing south, and had been in corn the two previous years, without manure. The ground was plowed on the last day of March, as deep as two horses could well do it, and harrowed twice crosswise. The potatoes were planted in drills on the fifth of April, and covered by hand. We then left them until a few tops were visible, when we covered them with straw, to the depth of four or five inches. This was on the 24th of April. We left them to their fate, not stirring the soil in any manner until digging time, when, on taking off the straw, some of the finest potatoes that ever greeted mortal eyes, lay at our feet, on the surface, requiring very little digging.

The same piece of land is now in wheat, and although it was sowed exactly one week later than the other portions of the same field, it has outstripped it in height, and is much more thrifty every way. Any one can see, almost to the inch, where the straw was lain. R.—*Cheviot, O., Nov.* 12, 1856.

Richardson on the Horse.—In looking over the catalogue of "Books for the Farmers," which you keep for sale, I noticed one which I possess, and esteem very highly. It is entitled, "Horses, their Varieties, Breeding, &c., by Richardson." He gives the history of the horse as concisely as possible, and treats, at considerable length, of all the varieties, showing the proper sphere of usefulness of the different breeds, &c. Also, on the management of the horse in health, how to keep him so, and how to manage him when health has been impaired, &c. He mentions the course to be pursued in breaking colts, which, if properly followed, would greatly lessen the number of balky horses. No man, who intends to raise, or even to keep horses, should be without something of the kind, and I would recommend this book, as it can be sent by mail, postage free, to any part of the country, by forwarding to you twenty-five cents. D.—*Gaics.*

ITEMS SUGGESTED BY THE DECEMBER NUMBER.

Though curtailed of "its fair proportions" by title-page and index, the *Farmer* for December contains a good many short, suggestive articles. I shall be able to itemize only a few of them.

"Make a Note of it."—Farmers find in their experience many things worth "making a note of" for their agricultural papers. And they like to read such notes, (at least I do,) from the pens of others. The short items about Corn, Potatoes, &c., in this and recent numbers, will, I hope, be followed by others from different pens, and any fact of interest to the farmer himself, should be noted and sent to the editor, whose position qualifies him to judge of its general interest, and hence, its fitness for publication.

Seed Corn.—I never knew our seed corn to fail before last year, nor do I remember ever before our being so careless as not to save any. We hired our husking done by a family of Prussians, and in the Spring selected our seed from the crib. It was husked late, and did not dry perfectly before freezing weather, and hence, some of it failed to vegetate. This agrees with the remarks of your New Haven correspondent, and with what I can learn of the seed corn which failed among my neighbors. It should be *saved early* and *dried perfectly*, and then there will be no mistake.

Fall Plowing for Corn.—With Mr. Johnston, I agree in not recommending fall plowing for corn. The crop succeeds best when the ground is plowed immediately before planting, and the manure well buried under the soil. Only for early-sown crops would I plow in autumn, and in no case would I plow before seeding.

Artichokes as a Field-crop.—The letter of Mr. Gallowa , on this subject, is an interesting one. That they yield well, there appears to be no question; but his opinion of their value, both for hogs and cows, is at direct contradiction with that of the *Southern Planter*, quoted on another page. Let us have more facts on the question.

Dead Furrows and Headlands.—The "manner of plowing" is an important subject, one part of which Mr. Adams writes well upon. There are generally a great many more dead furrows than are needed, but the headlands have never seemed so objectionable to me. I have often wondered why *more* instead of less grain, grew where the ground was tramped so hard. That little grows in a dead furrow, I have often noticed, and as often that headlands produced better than the rest of the field, except sometimes in hoed crops.

Breaking up Prairies.—In your interesting extracts from Mr. Howard's western letters, I notice the remark that the breaking up "is done whenever it is convenient to do it." This may be so, but we did not so learn from prairie farmers during our trip last season. They told us that the first plowing of the prairie sod should be done between the first of May and the last of June, while the grass and weeds were in their most active stage of growth, and that the sod will rot much better, and the after-crops, for several years, be more successful than if broken up at any other time.

Baked Sweet Apples.—How seldom do we see these brought on to the table by our country friends. For us, there can be no better sauce, and we would not care if we had them twice a day the year round. Raw sweet apples are good, and so are sour ones—they should form a part of our daily food nine months in the year. "Bring on the apples!"

"Farmer Slapdash."—Many an orchard is managed on the Slapdash system—planted in a post-hole, pruned by unruly cattle, barked and broken by the plow—no wonder such fruit-culture is thought a humbug. Look at the pictures, and you will learn a lesson worth heeding—if not from Slapdash, from Forecast and his management. B.—*Niagara Co., Dec.*, 1856.

FALL AND SPRING PLOWING.

John Johnston, of Fayette, says, never plow even heavy land, in the fall, for corn in the spring; the opinion of a man whose superior farming has done so much to set farmers to thinking, who never before dared to think outside of hereditary prescription, ought to have much weight; yet there is no doubt but that, under certain conditions of soil, that fall plowing may be practiced to advantage.

Joseph Wright got a large crop of corn this season, from a field of three years' clover sod, plowed nine inches deep, last fall, harrowed and planted late in May; no manure. Geo. Allerman, on like soil, with the same surface draining, next field, plowed and planted in the spring, at the same time. Wright harrowed his, using the same kind of seed. The corn both came up at the same time, but Wright's looked best, and gained on Allerman's until harvest, when it was acknowledged that Wright had one-third more in ears and stalks than Allerman. He attributed Wright's success entirely to the fall plowing, which, he said, enabled the sod to rot better than his had done, but that if the season had been wet, his sod would have rotted better, and his crop would have been as large as Wright's. But, on the other hand, Wright attributes his success, in part, to his mode of plowing; Allerman plowed a wide, shallow furrow, turning the sward flat, as if for summer fallow. Wright plowed a narrow but deep furrow, turning the sward edgewise, and leaving a very rough, jagged surface for the spring harrow.

To test the disputed point better, Wright has followed Mr. Johnston's advice by beginning an experiment of fall and spring plowing, in his own field, for corn in the spring. I went with him on the 2d inst. to see the end of his fall plowing: it was a three years clover sod on a gently-rolling stoneless field of friable clay loam, of a dark color, except where the plow now and then turned up streaks of yellow, clayish subsoil. Three yoke of heavy cattle were plowing a narrow furrow ten inches deep—the plowman said eleven. When the rough surface is frozen, it is to be treated with a thin coat of distillery manure; at the same time a like quantity is to be spread on that part of the field which is to be plowed in the spring; then the plowing is to be done as on the other plot, in the fall; both pieces to be harrowed and planted at the same time and tended alike. The result will be published. S. W.—*Waterloo, Dec.* 7, 1856.

Quality of Soil.—Sands are seldom so rich but it may be a matter of gain to increase their fertility; and few tracts are so poor but that with proper tillage and manuring they may be made the abode of plen

FACTS IN AGRICULTURE.

"There is a *dearth* in the agricultural press, at this time, so far as *facts* are concerned."—*Prairie Farmer.*

We have come to the same conclusion. Day after day have we scanned over the broad pages of our numerous exchanges, European and American, and been compelled to throw down the paper without obtaining one new idea, one solitary fact. It is mainly on this account that we offer the "Premiums for Short Essays," to be found on another page. We are satisfied that the million of intelligent, observing farmers engaged in cultivating the soil on this almost boundless continent, are in possession of *facts* which, could they be induced to communicate them to the agricultural journals, would prove interesting and valuable, and add materially to our stock of agricultural knowledge. Let us have *facts*, brother farmers!

American farmers have a glorious future before them. Unlike the farmers of Europe, they are their own land-owners, and not tenants, compelled by some lawyer-agent to adopt a particular system of culture. They are at perfect liberty to make such improvements as their own experience dictates, and are certain to receive the full reward of their intelligent labor, with no fear of having the "rent raised." We enjoy the blessings of peace, of free institutions, of rapid, safe, and economical intercommunications, of good soil, good climate, and good prices. Ours is a new country, of great extent, of boundless resources, possessing varieties of soil and climate suited for the production of every plant used as food for man and beast. It is peopled with an active, industrious, enterprising, and intelligent race of men and women, representing every civilized nation on the globe; and into this favored arena is brought the experience of agriculture from every clime. Surely, we have every thing to stimulate us to study, observation and reflection. With such stimuli to exertion, need we wonder at the restless enterprise which characterizes the "universal Yankee nation," and which excites the surprise, if not the admiration, of older nations.

But is it not a shame to the intelligent farmers of this highly-favored land that there is a *dearth* of facts in the agricultural press? If we cannot obtain facts here, where shall we look for them?

It cannot be said that there is nothing to call out the observed facts and experience of the past year. Almost every state and county has its organized agricultural and horticultural societies. Farmers' clubs, though not as numerous as they should be, are yet not uncommon, while we have more agricultural papers published in this country, than in all the rest of the world besides; and yet, the truth must be told, there is a dearth of facts. We have abundance of organized means of *diffusing* facts, but are almost entirely destitute of the proper methods of discovering them. Farmers must experiment more, and chronicle the result for the benefit of others. We do not need "Model Farms;" we have them already, in every county in the Union; but we need "Experimental Farms," where men of science and practice can unite in investigating the laws of vegetable and animal nutrition. The agriculturists of our country would willingly support such an institution in every State if they could be satisfied that it would be kept out of the hands of wire-pulling, log-rolling politicians, who care more for the almighty dollar than for those laws or *facts* which underlie all rational systems of agriculture. We hope to live to see the day when the farmers of America will take this matter into their own hands, and when there will never again be occasion to say, "there is a *dearth* in the agricultural press at this time, so far as *facts* are concerned."

NOTES FOR THE MONTH BY S. W.

Still Slop and Still Manure.—Many farmers came ten miles before daylight to carry home a wagon load of still slop, which they now get gratis from one of our new hogless distilleries. To how many of these farmers does it occur that a part of the value of this slop is in the superior value it gives to their manure heap, containing, as it does, all the phosphoric acid and protein compounds of the corn itself, having lost nothing but the starch, which went to alcohol. It is encouraging to see one of our largest distilleries now for the first time saving the manure from their pens, instead of washing it into the river; the result will be that Joseph Wright, who hauls it daily to his corn and tobacco grounds, will show such crops the coming season as no farmer can hope to more than half equal.

High Prices resulting from Short Farming.—I asked a farmer the other day why he did not grow clover seed and sow it more abundantly, to bring back fertility to his now crop-failing soil. He replied that when his land was new, and he got large crops with little labor, the price was nothing compared with the present cash prices; that he got more money now than he did then, and that if farming was improved and brought back to its former fertility, and large crops were grown with little labor, prices would again fall below all remuneration

Wurzel Beets for Milch Cows.—There is no sweeter beet grown in this climate than small-sized Wurzel beets. They are much sweeter at this time than the large blood turnip-beet. The largest Wurzels, when fed to milch cows, cause a greater secretion of milk than their weight in raw potatoes, as Judge Cox, of Romulus has fully proved by experiment. Chemistry shows truly that potatoes contain more nutritive matter than beets, or even carrots; but experiment proves that in the raw state beets develop, in the process of digestion, their full nutritive value; while raw potatoes do not; hence the importance of cooking potatoes. A little Indian meal, oil meal, or good mill stuff strewed over cut beets, adds much to their nutriment, making less dry feed necessary; and it has been truly said that roots fed to stock in winter, perform the office of aiding the digestion of the ultimates of their dry food. But as a necessary condition to economical feeding milch cows to prevent the decrease in their milk, they must be stabled in wet and cold fall and winter nights. This alone will save both milk and food.

Chinese Sugar Millet. (*Sorghum Saccharatum.*)—This noble plant bids fair to be a great and valuable addition to our cereal grasses; the more especially as it requires precisely the same soil, climate and culture as our great *indigene*, Indian corn. If seed can be had, many here will give it a fair trial next season; at the present high prices of sugar, it may be profitably grown for its saccharine alone; and as fattening food for cattle, it may be found an economical substitute for the Indian corn plants cultivated for soiling and winter fodder. S. W.—*Waterloo, N. Y*

BEANS AS A FIELD CROP.

Messrs. Editors:—Many of your readers have grown beans far more extensively than myself, yet they fail to favor us with their experience in this crop—at least, I notice none reported in your paper. Several farmers of my acquaintance plant from five to ten acres of beans annually, and say they find it profitable to do so. One of them remarked to me that he "planted corn until it was too late to plant more, and then put in his bean crop, which filled up the time until corn was fit for hoeing." I made a small trial of their culture the past season, planting about half an acre, using up all the seed on hand, and thinking even so much of a crop would give me an idea of their expense and profit.

The soil was a gravelly loam—was in potatoes last year, and not recently manured. I planted three varieties, though most largely of a small white bean, common in this section, but unnamed, so far as I can learn. A few rows of a large white bean were also tried, and quite a patch of a French bean, (the *Haricot flageolet*, distributed by the Patent Office, and characterized as a favorite dwarf variety in the vegetable gardens and markets of Paris.

They were planted the tenth of June, and harvested the middle of September. The account stands as follows:

Dr.	To one-half day's plowing,	$1.00	
	" one-quar. bu. seed, at $2 per bu.,	.50	
	" 1 day's planting,	.75	
	" 2½ days' cultivating and hoeing,	2.00	
	" 2 days' pulling and threshing,	1.50	
	" interest on land, at $50 per acre,	1.75	$7.50
Cr.	By 9 bushels beans, at $1.41 per bu.,	$12.69	
	" one-half load bean straw,	.81	13.50
	Profit per half acre,		$6.00

This trial shows that it costs eighty-four cents to grow a bushel of beans. Prices range from $1.25 to $2.25, and higher, per bushel.

Next season I intend to plant several acres, and for a field bean, think the small white the most valuable. They yielded very fairly—as well, perhaps, as any other—and ripened very handsomely and evenly, and were, certainly, the fairest and cleanest lot of beans I ever saw in market. Uneven ripening injures the value of any bean, spoiling the straw, and detracting largely from the good appearance of the crop when threshed for market. The French beans I shall confine to the garden; the drouth seemed to have most effect upon them—the leaves withered and rusted under its influence, and the product was far less fair in appearance. In flavor, whether cooked green or dry, they have no superior. The large white beans ripened later, and imperfectly. We want, for a field bean, one which will mature early, and give time to manure the ground and sow to winter grain, if desired. Such a bean crop may be employed instead of a fallow, to subdue and ameliorate the soil; at least, such is the opinion of

A Young Farmer.

Remarks.—In a P. S., our correspondent asks us to call upon the bean-growers to give facts in their culture, as he wisees to learn more in regard to them, and from the experience of others. We willingly do so. In regard to their employment as a fallow crop, there is some difference of opinion among practical farmers in this country. In England, on heavy land, beans are extensively cultivated as a fallow crop to precede wheat, and the experience of practical farmers, and the results of scientific experiment, testify to the advantages of the practice. Beans contain a very large percentage of nitrogen—more than any other crop we raise. This nitrogen is obtained, to a great extent, from rain-water and the atmosphere. If, therefore, you raise a crop of beans, and consume them on the farm, and return the manure made by the animals eating them to the soil, the field will be greatly enriched, especially in nitrogen or ammonia, which is the most expensive and natural ingredient of all manures.

That beans, peas, turnips, &c., organize a greater quantity of nitrogen from rain-water and the atmosphere than wheat, we know to demonstration; and we have little doubt that we may include with wheat our great American cereal, Indian corn, and barley and oats also.

If we plant half a field with corn, and the other half with beans, and sow them both to wheat afterwards, we do not know that the half on which the beans grew would be any richer than the half on which the corn grew. But if the been crop and the crop of corn were fed to animals on the land on which they grew, there cannot be a reasonable doubt that the part on which the beans grew would be much richer in those elements most needed by the wheat plant, than the part on which the corn grew. To obtain the full benefit from beans as a fallow crop, therefore, it is necessary that they be fed out on the farm.

We shall be glad to hear from our experienced correspondents on this point.

Sharpening Edge Tools.—A German scientific journal says: "It has long been known that the simplest method of sharpening a razor is to put it for half an hour in water to which has been added one-twentieth of its weight of muriatic or sulphuric acid, then lighlty wipe it off, and after a few hours set it on a hone. The acid here supplies the place of a whetstone, by corroding the whole surface uniformly, so that nothing further than a smooth polish is necessary. The process never injures good blades, while badly hardened ones are frequently improved by it, although the cause of such improvement remains unexplained.

"Of late, this process has been applied to many other cutting implements. The workman, at the beginning of his noon-spell, or when he leaves off in the evening, moistens the blades of his tools with water acidified as above, the cost of which is almost nothing. This saves the consumption of time and labor in whetting, which, moreover, speedily wears out the blades. The mode of sharpening here indicated, would be found especially advantageous for sickles and scythes."

French Horses.—Linsley says: The best French horses are raised in Limousin and Normandy. Those from the latter province are of large size, with plenty of bone and muscle, large limbs, heavy quarters, sloping croup, deep chest and deep body, but a little flat-ribbed. They are very tractable, and possessed of very great endurance, and can carry great weight at the rate of six to seven miles per hour.

COWS AND BUTTER MAKING

EDS. FARMER:—The first cow we ever owned, (I begin without preface, for I know you dislike them,) is a two year old heifer bought this spring, for which was given "a promise to pay," $20. She is native breed, her mother a good milker, light red with some white spots, and we call her "Ruby." We also "took" a three year old farrow heifer, a strongly marked cross of the Devon. Her milk, we turned toward keeping two calves, bought of another resident of the farm, until the 10th of July, after that keeping them ourselves on skimmed milk. The Devon answers to the name of "Dora." "Ruby" had a small calf the 13th of June—this was allowed to suck all her milk until July 10th, when it was sold for $2—less, I think, than its market value.

Then commenced our butter making. Both cows were young, one farrow, and the pastures shortened by the drouth; so they gave only from seven to eight quarts at a milking. "Ruby's" mother, five years old, kept in the same pasture, gave double the quantity. The milk was strained in two large sized tin pans, and stood about two inches deep therein. It was set in a milk room, built of stone and floored with water lime, and well shaded with trees. In the warmest weather, it was allowed to stand about 48 hours before skimming; in cooler, it sometimes stood three days, or 72 hours. We churned in a common dash churn, about once in four or five days—never allowing the cream to accumulate over a week. Butter generally came in about 40 minutes, less or more, according to the temperature of the cream. The butter was salted without washing—worked twice and packed in stone crocks, containing from three to five gallons, or made in rolls, later in the season. The salt used was the common Onondaga, worked in thoroughly and largely at the first working, and out, or a portion of it, with the remaining buttermilk, at the second. Our customers ask for plenty of salt in their butter. No other use was made of the milk than for butter making; so we are able to give a full account of the product. It would be more complete and satisfactory, had we weighed or measured the milk as drawn from the cow.

For six months, (April 24th to Oct. 24th,) we *calculate* receipts and expenses as follows:—

Interest on Ruby's cost, $20,6 mos.,	$0 70	
Use of Dora, $6 a year,	3 00	
Keeping of both, 37½ cts. per week,	10 75	
Interest on cost, and use of dairy utensils,	30	
		$14 75
Increase in value of calves fed on Dora's milk, to June 10, afterwards on skimmed milk.	$5 00	
Ruby's calf, sold at four weeks old,	2 00	
25lbs butter, at 16 cents per pound,	4 00	
52½lbs " 21 " "	11 50	
		$22 50
Left to pay for labor of making, &c.,		$8 7 75

Several things on both sides are not taken into consideration—among them, money to pay for "Ruby"—on the other hand, the increase in the value of the cows.

There is a good chance to learn "the wrinkles" of making good butter, if one will "take an interest" in trying to do so. We have made some progress, even in a single six months, and hope to make still further improvements. Our butter commands the highest market price—it looks, tastes, and keeps well, and that is good encouragement. With more and older cows, and larger experience, we hope to rival the best dairymen.

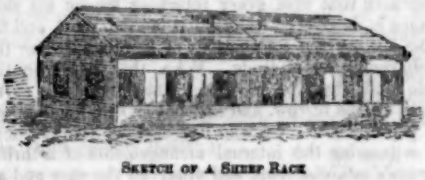
In the management of milk, we think it best to set it in shallow pans, and keep it unstirred until sour and thick,—then the cream rises most perfectly. In warm weather, this takes place in from 24 to 36 hours, and a temperature is desirable when milk will thicken in 48 hours. One difficulty in making good butter in winter, is, that the cream generally rises so slowly, as to become crusted over with a kind of sour, cheesy matter.

The cream should be stirred daily, and in summer it is better not to add the last skimming to the churning, but keep it until the next. We never churn sweet cream. The cream should be "just a little warm to the finger," when it is placed in the churn, and the butter will come in from 20 to 30 minutes—and be hard and yellow. Work it over sufficiently to get the salt thoroughly mixed with the butter, smooth it down, and set it in the cellar two or three days. Then work it again enough to get out all the buttermilk, and no more, and pack down or form into rolls. The latter are preferred, at some seasons of the year, by grocerymen.

I did not think to trouble you with so long a story, and find I might say still more to the point, but will defer it until the end of another three or six months A. S. B.

RACK FOR FEEDING SHEEP.

The rack of which I send you a rough sketch, is built on runners, made of 3 inch plank, 14 feet long, and 4 feet wide; sleepers, 4 by 4, are framed into the runners; the floor of the rack nailed to them. A post, 3 by 3 inches, at each corner. On the inside



SKETCH OF A SHEEP RACK

of the rack the boards are made fast to them. The bottom boards 4 feet wide, the space 9 inches. The top board 16 or 18 inches; the edge of the boards rounded and made smooth. To divide this space, boards 10 or 12 inches wide should be used, with the edges made smooth, nailed on the outside. The space for each sheep's head will be 7 by 9 inches. The roof is made of boards and small rafters, 2 by 2 inches. One half of one side of the roof must be hung by strap hinges, (to prevent its warping,) that can turn up, with a small latch to hold it up when filling with hay. An eave-trough, made of two boards, to carry the water off, can be hung at each corner with old chains on hooks, and let down and answer a good purpose to feed grain in.

This kind of a rack will keep the hay dry and the sheep from trampling it under foot, and can be drawn to any part of the farm with a yoke of oxen or a pair of horses. I have used one for years, and think it preferable to any kind I know. A. H.—*Lenox, Ohio*

AGRICULTURE—ITS ADVANTAGES.

Of all the various occupations and professions which have engaged the attention of mankind, there is none that seems to be so pre-eminently useful, so honorable, in short, so compatible with all our interests, as the cultivation of the earth. There is none that has so many resources within itself, or which can furnish from its own means the supplies for all our necessary wants. Food, raiment, and luxuries innumerable are the fruits of the farmer's labor and care; and in their train follow health, happiness and independence.

And in view of these facts, for facts they are, we are led to wonder that so many of our young men are placed behind the counter to learn the arts and mysteries of the scales and yard-stick, to deprive themselves of the bloom and the freshness of youth, and bring early and deep furrows of care and anxiety on their brows, by the difficulties and perplexities attending the prosecution of mercantile pursuits, when so many and so strong inducements are held out for them to engage in that profession which was the earliest employment of man, and which, as the light of science is spread abroad, and improvements are made in the art, is becoming more interesting, more profitable, and at the same time less laborious.

With what different feelings do the farmer and the merchant leave their pillows in the morning. The one bouyant with health and spirits, goes forth with the first dawn of day to his cheerful labors in the field, while the other after a restless, and perhaps a sleepless night, walks in a sober, thoughtful mood to his counting-room, anticipating, with fearful forebodings, the insolvency of his customers, or the ill-success of a voyage.

With what honest pride and heartfelt satisfaction does the farmer look at his luxurious fields, his richly laden orchards, and his growing flocks, with the happy assurance that with every returning season his substance is increasing, that he is above want, and far from feeling the fluctuations of merchandise or the embarassments of trade. Who, that has seen the hale and vigorous plowman whistling along as he turns up the furrow, and has not sighed for the joys of pastoral life? Or, who has enjoyed the privilege of witnessing the internal arrangements of a thrifty farmer's establishment, and observed the care and attention evinced in all her domestic economy by his industrious and frugal wife, and has not coveted the happiness and independence of the farmer? Much as the wealth and prosperity of a nation may be promoted by its commerce and manufactures, still we are constrained to look upon agriculture as its source and foundation. It is absolutely necessary to our existence; for let men pursue what other business they may, they are still dependent on the farmer for what they eat and wear.

And, suppose the farmer, by way of relaxation, occasionally deviates from his regular routine of duties and engages a little in horticulture, or the cultivation of the choicest kinds of fruit, will he not be repaid a thousand times for the time and labor bestowed on a few trees, vines or shrubs? And further, will not the appearance of his house and "front door yard" be immensely improved, himself and family enjoy a large amount of pleasure and gratification, not to speak of the frequent lessons of neatness and order which his children would learn by the cultivation of a few varieties of flowers. And will not these silent monitors, which so beautifully remind us that

"The hand that made them is divine,"

also have a moral tendency, and teach us to look

"Through nature up to nature's God."

C. N. Bement.

BRIEF REMARKS ADDRESSED TO FARMERS.

BY C. N. B.

Independence of the Farmer.—The merchant or manufacturer may be robbed of the reward of his labor by changes in the foreign or domestic market entirely beyond his control, and may wind up a year in which he has done everything which intelligence and industry could do to insure success, not only without profit, but with an actual diminution of capital. The strong arm of mechanic industry may be enfeebled or paralyzed by the prostration of those manufacturing or commercial interests to whose existence it so essentially contributes, and on whom in turn it so essentially depends. But what has the intelligent and industrious farmer to fear? His capital is invested in the solid ground; he draws on a fund which has never wholly suspended or repudiated; his success depends on no earthly guarantee, but on the assurance of that great and benificent Being who has declared that while the earth endureth, seed time and harvest shall not cease.

The Farmer's Life.—The pleasures of rural nature are consistent with every period of our lives; and they certainly approach the nearest of all others to those of a purely philosophical kind. Those who are partial to the country—and where is the man of genius who feels not a delight, approaching to ecstasy, from the contemplation of its scenery, and the happiness which its cultivation diffuses?—those who have paid attention to the process of husbandry, and who view its occurrences with interest; who are at the same time alive to all the minutiæ of the animal and vegetable creation; who mark "how nature paints her colors, how the bee sits on the bloom, extracting liquid sweets," will derive from the study of nature a gratification the most permanent and pure.

Farmers.—Yours are the *first* sources of wealth; yours the fountains from whence flow the peaceful streams of contentment and of real enjoyment; yours, though a life of toil and industry, is a life free from the thousand temptations which surround the indolent, the vicious, and the votaries of pleasure.

Agriculture is an Art.—Man is the artist; the soil his labratory; manure his raw material; animal strength and machinery his power; air, heat, and moisture his agents; and grains, roots, fruits, and forage his products.

Japan Pea.—Our esteemed correspondent, Dr. Dusenbury of Gates, N. Y., informs us that the Japan pea last year did not fully mature with him. It grew most luxuriantly, but did not produce as many matured peas as the seed sown. It is evidently very prolific and where it matures, as in the Southern States, it may prove an acquisition; but will it in this climate?

We have no notice of the horse being used in the cultivation of the soil till A. D. 1066.

THE PEDIGREES OF THE ARABIAN HORSE.

Linsley, in his Premium Essay on the Morgan Horse justly observes: The earliest records we have of the horse, trace him to Egypt, whence he gradually found his way to the various Egyptian colonies. Among the African varieties, the Barb is remarkable for his fine and graceful action, and is found chiefly in Morocco and Fez. He is lower than the Arabian, seldom exceeding fourteen hands. The shoulders are flat, the chest deep, the joints inclined to be long, and the head very fine. He is superior to the Arab in form, but has not his speed and endurance, nor his spirit and "countenance." The Barb has chiefly contributed to the excellence of the Spanish horse. The Godolphin Arabian was a Barb, and from him has decended some of the best racing stock of England.

Outline of the Head of an Arabian Horse.

The Arabian horse deservedly occupies the very highest rank. So late as the seventh century, the Arabs had very few horses, and those of a very inferior quality. The horses that they obtained from Cappadocia and other neighboring countries, were preserved with so much care, and so uniformly propagated from the finest animals, that in the thirteenth century they had obtained great celebrity. The Arabs divide their horses into three classes: the *Attechi*, or inferior breed, which are little valued, and are found wild in some parts of the desert; the *Kadischi*, or mixed breed; and the *Kocklani*, or thoro'-bred. Many of the latter have well-attested pedigrees extending more than four hundred years, and the Arab confidently asserts that the pedigree of his favorite mare can be traced distinctly to the stud of Solomon. More care is taken to preserve the pedigree of their horses than the genealogies of their chiefs; these pedigree are always reckoned from the dams. The Arabian horse might not always be acknowledged to possess a perfect form, but no one can fail to admire his head. (See the annexed cut, engraved for the *Genesee Farmer.*) The broad, square forehead, the short, lean, firm, and delicate muzzle, the bright, prominent, and intelligent eye, the small, sprightly, and almost transparent ears, are universally acknowledged to be unrivalled in any other breed. The fineness of his legs, and the oblique position of his pasterns, may be supposed to lessen his strength; but his legs, although small, are flat and wiry, and they are not required to carry heavy weights. The muscles of the thigh and fore-arm are strikingly developed, and assure us of his ability to perform many of the feats of strength and endurance related of him. But in reading of his really marvellous marches, we must remember that there are no watches to note accurately the time, nor milestones to mark correctly the distances on the path of the desert, and we must make some allowance for the proneness of the Bedouin to exaggeration. The Arabian horse is as celebrated for his docility as for his speed and courage. He rarely exceeds fourteen hands in height, his body is light, his hips and loins excellent, and his shoulders extremely beautiful. It is to the Arabian that the English are chiefly indebted for their unrivalled breed of horses for the turf and the chase.

SUBSTITUTES FOR THE POTATO.

The excitement so prevalent, a month ago, respecting the Japan potato, (*Dioscorea Batatas*) having almost subsided, and no fruit commensurate with the great effort made by several prominent horticulturists having been reaped, we think it may not be out of place to present again the claims of our native tuber, the *Apios tuberosa*. It is now nearly two hundred years since the introduction of this plant to Europe, where it has been fully tested. It had not, however, half the notoriety of the Japan root, and we presume it would still stand the test in comparison with that celebrated esculent. Were it not, unfortunately, a native of this country, much might be said in its favor. The *Apios tuberosa* is a leguminous plant, a herbaceous perennial, with tuberous roots, which are farinaceous when cooked, and when analyzed have been found to contain about half their weight in water. An accurate French experimentalist, professor in the university of Pavia, ascertained that the produce, by careful cultivation, in comparison with that of the potato, would be about one-third. Its further cultivation, on a large scale, was not recommended by him. We presume it will not attain any greater reputation than its more modern Japan competitor, though the amount of produce of the Dioscorea is certainly much greater than that of our more humble Apios.

R R S.

Large Yield of Potatoes.—Last spring I planted three potatoes of the kind called "Lady-fingers," weighing exactly one pound. I cut them in as many pieces as they had eyes, and found that I had 114 pieces. I planted them in a drill about a foot apart, in ground that was plowed the fall previous. I struck out the row with the plow the same as I would corn ground, and put rotten hog manure in the bottom of the furrow, and covered it about an inch with mould, then laid the pieces of potatoes in and covered with a hoe. All came up excepting seven. I hoed them several times through the season. When I dug them I found the yield was little more than half a crop on account of the dry weather, although I had the pleasure to harvest one bushel and a half of potatoes from the three planted, weighing 90 lbs. I brought from Wisconsin in the fall of 1855, six other kinds of potatoes, weighing together five pounds. From these, planted the same way, I raised two bushels and a half, weighing 147 pounds. J. L. Miller—*East Hanover, Pa.*

FARMERS' CLUBS.

It is a fact already recorded on the page of history, that those towns that have sustained the best Farmers' Clubs, have made the most progress in the art of good husbandry, and have taken the greatest number of the premiums awarded by the county societies. The Farmers' Club should, and does sustain about the same relation to the county society, that the district school does to the academy. It will be found that the towns that sustain the best clubs, furnish relatively a greater number of active members to the county societies, than those where these primary organizations do not exist.

There is not a farming town in this, or any other Commonwealth, that may not, if it will, sustain a club that shall prove highly beneficial to every farmer who interests himself in it, by becoming an active and working member.

Now is the time to form these clubs. But, says an inquirer, how can it be done? The answer is ready. After reading this article, just name the subject to your neighbor, ask him to suggest it to his neighbor, and when a little interest and curiosity is aroused, call a meeting at the town hall, school house, or at some neighbor's house, and organize by appointing a president, vice president, secretary, and an executive committee, whose duty it shall be, with the advice and consent of the members, to arrange the order of business and entertainment of each succeeding weekly meeting.

Select some subject for a public debate, appoint some one or more upon each side to speak upon the subject; also some one or more to write an essay, or essays, upon some subject or subjects connected with agriculture or domestic economy, extending the invitation to the mothers, wives and daughters, for without their aid and presence, you will not be likely to succeed, while with them you cannot fail.

After completing your organization, you will find it profitable to enlist your minister, your lawyer, doctor, and schoolmaster, to lecture occasionally before the club; and by introducing the system of exchange now practiced among ministers, you may have numerous lectures, while each lecturer will not be under the necessity of preparing more than one good lecture during the season.

The club being formed, a desire for books for study and for reference, will soon be awakened, and the steps will soon be taken to secure these, which will serve as a nucleus for a Town Library, where such does not already exist. Every club will need a Cyclopedia of Agriculture, practical and scientific, developing both the theory and the art of good husbandry, relative to both farm vegetables and animals. There are two good works of this kind now before the public, ready for use, to wit, "The Rural Cyclopedia," by J. M. Wilson, and another, by J. C. Morton.* Either of these is worth more to the farmer than the entire list of publications by some of the modern book-makers and publishers. * * * While it is desirable to have and to read and study good books, all others are worse than useless, for they serve both to kill time, and mislead the reader. With an outlay of $50, a club may furnish itself with all the works necessary to begin with. Then let such additions be made from time to time as the wants of the members shall demand. This is the dictate of good economy and practical experience.—*Massachusetts Ploughman.*

* The latter is by far the best work of the two; in fact, it is the best work extant. We heartily unite with the *Ploughman* in recommending it to Farmers' Clubs, and we will send it or Wilson's Encyclopedia, or any other agricultural and horticultural works, to any *Farmers' Club* at twenty per cent. less than the usual rates, which see in our advertising columns.—Eds. Genesee Farmer.

EXTRAORDINARY FECUNDITY OF WHEAT, BARLEY AND OATS.

We have received from Messrs. Hardy & Sons, of Maldon, Essex, specimens of different grain in the straw (wheat, barley and oats) grown by them, with a request that we would examine them. They are intended to show the effect of their system of thin sowing, and of more care than is usually experienced in the cultivation. The specimens were placed in the hands of a person well qualified to examine minutely, and to report upon them, and we now give below the results, with all the details connected with the several parcels; and without pledging ourselves in the slightest degree to the applicability of the system upon a broad scale, we feel justified in saying that those results are such as to deserve the attention of practical men, and a rigid inquiry how far the system of thin and careful sowing or planting of cereals is capable of being carried out generally under the present course of husbandry:

Specimens of the Produce of Different Cereals from Messrs. Hardy & Sons, Maldon, Essex.

Number.	No. of plants.	Distance planted.	No. of ears.	No. of grains per ear.	Average grains per plant.	Weight of grain.	Quantity grown.	Average produce per acre.
1. Mummy Wheat,	1	1 foot	20	2280	114	3 oz.	5 acres.	180 bushels.
2. Red Wheat,	—	1 "	10	1120	112	2 oz.	1 acre.	——
3. Ditto do	4	1 "	113	7240	64	10 oz.	——	113 bushels.
4. Ditto do	-	1 "	100	9000	86	7¼ oz.	——	——
5. Skinless Barley,	—	—	2	162	81	¼ oz.	——	——
6. Common Barley,	1	1 "	82	2040	25	2¼ oz.	——	204 bushels.
7. Oats,	1	1 "	10	2816	281	2¾ oz.	——	172 bushels.
				2816	2040			

Note.—The wheat is estimated at 60 lbs., the barley at 52 lbs., and the oats at 38 lbs. per bushel, which is the full weight of the specimens.

Explanations.

No. 1. Twenty specimen ears of Egyptian white wheat as cut from one stub, growing at a wide distance casually in a field of five acres.

No. 2. Ten ears with thin straw of Hardy's selected and improved red wheat, from one acre transplanted with plants sown by the sparrows in a stubble in August, planted in October, at one foot apart, a little more than one-fourth peck of seed per acre.

No. 3. Four (out of 8) single roots, 240 ears, averaging 35 each, grown casually at one foot apart, on common plowed land and no manure, was very foul; one peck of seed sown, and thinned out singly quite half, rather blighted.

No. 4. One hundred ears of prolific red wheat transplanted on one foot square, or little more than three pints per acre, rather blighted, as other people's. Estimated produce, 48 bushels per acre.

No. 5. Two ears of skinless barley.

No. 6. One plant of barley, sown one-fourth peck per acre, spoiled with the application of strong liquid manure, which caused it to be blighted.

No. 7. One plant of (Tartarian) oats, one-half bushel of seed per acre. There are two grains in every husk, twin-like.

No. 8. By way of contrast, we have inspected in the same manner, 10 ears of old Norfolk red wheat, grown at Glandford, which contain 511 grains, weighing one and one-twelfth ounces, averaging 51 grains each ear. The crop is estimated at 48 bushels per acre. Quality very good. All the specimens are of this year's growth.

Mark Lane Express.

KEEP AN ACCOUNT WITH YOUR FARM.

Every evening for the past seven months I have "posted up" a record of the labors of the day, as each crop was sown or planted, I have transferred to each its appropriate items, (giving my best estimate of their money value,) and as the season has advanced, have "closed the account" with several crops, and brought them so that I can "see through it" with most others, and I think I find it a very convenient as well as economical course of procedure. In any other business it would be a waste of words to argue the case, for none go into operations of even trifling extent, without keeping an account of outgo and income. Why should not the farmer do so? There is no good reason; and the amount of time and thought it requires can well be spared from more active labors.

No particular system of accounts would suit all cases—mine only suits myself, and I see constant chances for systematizing and improving it. So, without going into details, let me say, every farmer should keep an account with his farm—should be able at the close of the season to "strike the balance," showing, not by guess work, but in dollars and cents, pounds and bushels, the profit and loss for the business of the year. They cannot tell how they stand with the world; how each plan has resulted, how each crop and animal has repaid the outlay, without so doing, with any accuracy or detail. They may be losing money on that to which their chief attention is turned, and making a good profit on another product which they consider of little consequence. An account of capital invested, the expenses of growth and culture, and the receipts or return from the products, would at once decide the true policy of the farmer—his profits and losses, and from whence they flow

But it is not my intention to be tedious with my "preachment." My accounts show me, among other things, that it has cost me more to raise a bushel of oats, this year, than to grow one of barley, and that corn will not pay at less than twenty-five cents a bushel, or $7.50 per hundred for pork. The year is not up with my stock—there is a winter expense yet to be borne; I am hoping it will be well repaid by their increase in value. The item of Implements is not a small one, though I have no reaper or seed-drill as yet. Taking it all in all, I am bound to know as near as possible, what becomes of the little capital I have invested in farming, and what plans are successes and what failures, and to make the most of the knowledge I buy in one way and another.

Brother farmers, keep an account with your farms, and my word for it, the figures will furnish you many a lesson of value—will give you many a hint by which you can make or save in other years. They will serve as sharp reminders of the folly of attempting too much, or of leaving the finishing touch undone, and will show you where you had the comfortable satisfaction of pocketing the dollars as the result of your well ordered labors.

B. F.

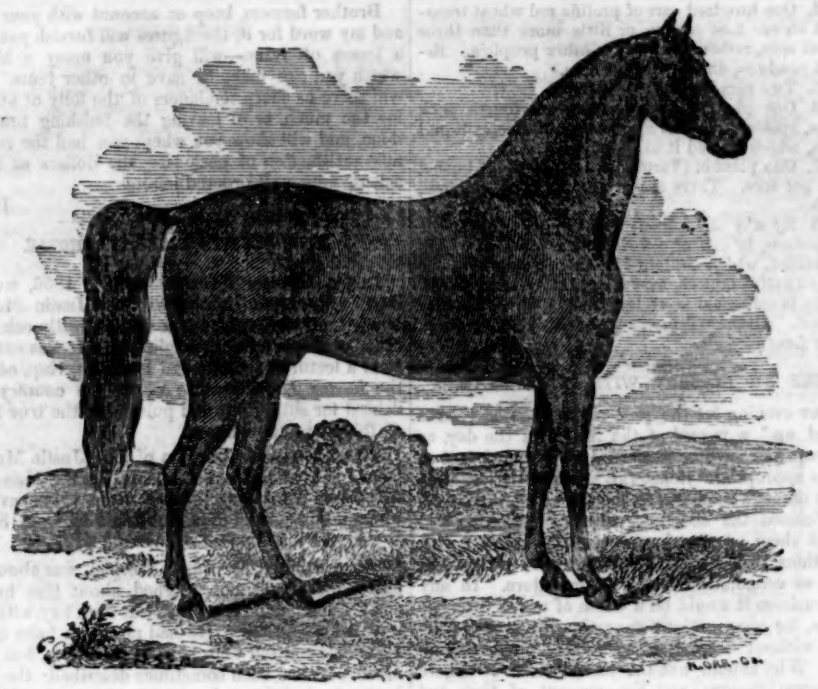
THE "JUSTIN MORGAN" HORSE.

In the *Genesee Farmer* for May 1856, we published a condensed history of the "Justin Morgan" horse, from which the stock of this justly celebrated breed of Morgan horses originated. It was extracted from a lecture of Sandford Howard, Esq., editor of the *Boston Cultivator*, to whom the country is indebted for sifting out and publishing the true history of this remarkable horse.

The following description of the "Justin Morgan," (so named after his owner, Mr. Justin Morgan, of Randolph, Vt.,) we condense from Lindsley's new work on Morgan Horses, published by C. M. Saxton & Co., of New York:

"The original, or 'Justin Morgan,' was about fourteen hands high, and weighed about nine hundred and fifty pounds. His color was dark bay, with black legs, mane and tail. He had no white hairs on him. His mane and tail were coarse and heavy, but not so massive as has been sometimes described; the hair of both was straight, and not inclined to curl. His head was good, not extremely small, but lean and bony, the face straight, forehead broad, ears small and very fine, but set rather wide apart. His eyes were medium size very dark and prominent, with a spirited but pleasant expression, and showed no white round the edge of the lid. His nostrils were very large, the muzzle small, and the lips close and firm. His back and legs were perhaps his most noticeable points. The former was very short; the shoulder-blades and hip bones being very long and oblique, and the loins exceedingly broad and muscular. His body was rather long, round and deep, close ribbed up; chest deep and wide, with the breast-bone projecting a good deal in front. His legs were short, close jointed, thin, but very wide, hard and free from meat, with muscles that were remarkably large for a horse of his size, and this superabundance of muscle exhibited itself at every step. His hair was short, and at almost all seasons soft and glossy. He had a little long hair about the fetlocks, and for two or three inches above the fetlock on the back side of the legs; the rest of the limbs were entirely free from it. His feet were small but well shaped, and he was in every respect perfectly sound and free from any sort of blemish. He was a very fast walker. In trotting his gait was low and smooth, and his step short and nervous; he was not what in these days would be called fast, and we think it doubtful if he could trot a mile much, if any, within four minutes, though it is claimed by many that he could trot it in three.

Although he raised his feet but little, he never stumbled. His proud, bold and fearless style of movement, and his vigorous, untiring action, have, perhaps never been surpassed. When a rider was on him he was obedient to the slightest motion of the rein, would walk backwards rapidly under a gentle



MORGAN HORSE "PAUL CLIFFORD.

pressure of the bit, and moved side-ways almost as willingly as he moved forward; in short, was perfectly trained to all the paces and evolutions of a parade horse; and when ridden at military reviews (as was frequently the case,) his bold, imposing style, and spirited, nervous action, attracted universal attention and admiration. He was perfectly gentle and kind to handle, and loved to be groomed and caressed, but disliked to have children about him, and had an inveterate hatred for dogs, if loose always chasing them out of sight the instant he saw them. When taken out with halter or bridle he was in constant motion, and very playful.

He was a fleet runner at short distances. Running horses short distances for small stakes was very common in Vermont fifty years ago. Eighty rods was very generally the length of the course, which usually commenced at a tavern or grocery, and extended the distance agreed upon, up or down the public road. In these races the horses were started from a 'scratch,' that is, a mark was drawn across the road in the dirt, and the horses ranged in a row upon it, went off at 'the drop of the hat,' or some other signal.

It will be observed that the form of the Justin Morgan was not such as in our days is thought best calculated to give the greatest speed for a short distance. Those who believe in long-legged racers, will think his legs, body and stride were all too short, and to them it may perhaps seem surprising that he should be successful, as he invariably was, in such contests. But we think his great muscular development and nervous energy, combined with his small size, gave him a decided advantage in the first start over taller and heavier horses; just as any ordinary horse can distance the finest locomotive in a ten rod race. When brought up to the line his eyes flash and his ears quiver with intense excitement, he grinds the bit with his teeth, his hind legs are drawn under him, every muscle of his frame trembles, and swells almost to bursting, and at the given signal he goes off like the springing of a steel trap. His unvarying success in these short races may perhaps be partially accounted for in this way, though he was undoubtedly possessed of more than ordinary speed, and was a sharp runner.

In harness the Justin Morgan was quiet, but full of spirit, an eager and nimble traveller, but patient in bad spots; and although for a long time steadily engaged in the heavy work of a new farm, his owner at that time informs us that he never knew him to refuse to draw as often as he was required to, but he pithily adds: 'I didn't very often have to ask him but once, for whatever he was hitched to generally had to come the first time trying.' This uniform kindness at a pull was one of the striking characteristics of the horse, and the same trait may be observed in the greater part of his descendants. 'Pulling matches' and 'pulling bees' were as common in those days as short races, and the 'little horse,' as he was often called, became quite celebrated for his unvarying willingness to do his best, and for his great power at what is called a 'dead lift.'"

Our engraving is a good likeness of the beautiful Morgan horse "Paul Clifford," now owned by Messrs. Hunsden & Wilcox, of Owego, Tioga Co., N. Y. He received the first premium at the Fair of the United States Agricultural Society, held at Springfield, Mass., in 1854.

FEMALE CASHMERE GOAT.

EWE CASHMERE GOAT.

Last month we gave a portrait of a Buck Cashmere Goat, with a short history and description of these celebrated animals. We have great pleasure in presenting our readers this month, with a beautiful engraving of a Ewe Cashmere Goat. She is the property of Col. Richard Peters, of Atlanta, Ga. Live weight 102 lbs.; weight of yearly fleece 4¼ lbs. We hardly dare to hope that these animals will succeed so well in our country that Cashmere shawls will be as cheap and common as woolen ones are at present, but we have, nevertheless, great expectation that they will prove well adapted to our climate, and a decided acquisition in many parts of the country.

Look to Your Animals.—Most of your readers, I presume, are aware that all animals require, other things being equal, more food in cold weather than is necessary to keep them in the same condition during more moderate winter weather. Therefore, to insure the comfort of our animals, and save fodder, it becomes imperative (if not already done,) to look to the stables and see that there are no crevices through which the snow and chilling winds will drive, to the great annoyance of the animals it may pretend to shelter. They should have plenty of clean litter, which will help to guard against the cold arising from want of banking around the buildings. They should also have light and a proper quantity of air; for I hold that light and air are as necessary for animated as for vegetable nature. They should not be admitted, however, through holes or cracks, but by properly prepared windows and ventilators.

D.—*Gates.*

The Tiller of His Own Land.—The man who stands upon his own soil, who feels that by the laws of the land in which he lives—by the laws of civilized nations—he is the rightful and exclusive owner of the land which he tills, is by the constitution of our nature under a wholesome influence not easily imbibed from any other source. He feels—other things being equal—more strongly than another, the character of a man as the lord of an inanimate world. Of this great and wonderful sphere, which, fashioned by the hand of God, and upheld by His power, is rolling through the heavens, a part is his—his from the centre to the sky. It is the space on which the generation before him moved in its round of duties, and he feels himself connected by a visible link with those who follow him, and to whom he is to transmit a home. Perhaps his farm has come down to him from his fathers. They have gone to their last home; but he can trace their footsteps over the scenes of his daily labors. The roof which shelters him was reared by those to whom he owes his being. Some interesting domestic tradition is connected with every inclosure. The favorite fruit tree was planted by his father's hand. He sported in boyhood beside the brook which still winds through the meadow.—Through the field lies the path to the village school of earlier days. He still hears from his window the voice of the Sabbath bell, which called his fathers to the house of God; and near at hand is the spot where his parents laid down to rest, and where, when his time has come, he shall be laid by his children. These are the feelings of the owners of the soil. Words cannot paint them; they flow out of the deepest fountains of the heart; they are life-springs of a fresh, healthy and generous national character.

Horticultural Department.

IMPROVING OLD APPLE ORCHARDS.

In all the older settled portions of the country, there are thousands of apple orchards producing an enormous quantity of fruit which is entirely valueless except as food for stock, or for cider-making. Can not these orchards be turned to better account? We believe they can. Even as food for stock, sweet apples would be far more valuable, and though the land occupied by these orchards may yield as much profit when the apples are converted into cider, as could be realized from it by any ordinary farm crop, yet we believe a far greater profit may be obtained by grafting these old trees with good varieties, that will command good prices for cooking and desert purposes. Apples for cider-making are seldom worth more than eight cents a bushel, and we have known them sold for half that price, while twenty-five cents a bushel is a low price for ordinary "grafted fruit;" and we believe there is no more labor required to grow a bushel of Spitzenburgs or Baldwins, than of the comparatively worthless natural sorts now so common in many parts of the country.

This matter should be attended to during the winter months. Now is a good time to get grafts, to decide what varieties it is best to get, and to learn which is the best means of performing the grafting operation. On this point there is some difference of opinion. We shall recur to it in a future number, giving illustrations of the most approved methods. In the meantime, we hope our correspondents will give us their experience.

McIntosh says that, in England, "the process of heading down and grafting old fruit trees is a much neglected part of fruit tree culture." The same may with equal truth be said of this country.

It may be said that it is easier and cheaper to get new trees from the nurseries. We would not discourage any one from planting young trees of good varieties; we believe that a properly-managed apple orchard, of the right sorts, is one of the most prolific sources of wealth upon a farm; but still, those who have vigorous trees of worthless sorts had far better re-graft them than to cut them down, or to let them remain as they are. More fruit can be obtained in a given time from one of these re-grafted old trees, than from a young tree; for it is a well established fact that grafting a young twig upon an old stock has the effect of making it flower earlier than it would otherwise do, in consequence of the accumulation of sap in the old stock becoming beneficial to the twig, and giving a check, at the same time, to its tendency to produce leaves. "As an example," says McIntosh, "if a seedling apple be grafted the second year of its growth on the extremities of a full grown tree, or even on a stock of five or six years from the seed, it will show blossom buds the second or third year; whereas, if it had remained ungrafted, it might not have shown buds for ten or twenty years." Another advantage of this mode of grafting is, that the organizable matter deposited in the roots and the trunk of the old tree is thrown with great force into the scions, causing them to make strong and vigorous shoots. The late George Olmstead, of Hartford, Ct., stated in an early volume of the *Horticulturist*, that by re-grafting an old apple-tree—beginning to graft the top of the tree first, and so working down, and completing the process in three successive years—he had obtained from this single tree, in six years from the time he *began* to graft, twenty-eight and a half bushels of excellent fruit.

There are many old apple orchards in the country, which, though of good varieties, yield no profit to their owners, simply because they have been neglected. Such orchards may easily and speedily be restored to abundant and profitable fruitfulness. Some time before the sap begins to flow in spring, thin out the heads of the trees by lopping off all decayed, stunted, diseased, crooked, or superfluous branches, but avoid the common error of cutting off large limbs, when it is not absolutely necessary. Then in the spring, if the orchard has been in grass for some time, put on a good dressing of manure, and plow it under as deep as you can go without disturbing the roots of the trees. The best way is to throw a thin furrow slice up towards the row of trees, turning towards you and finishing in the centre between two rows. The plow can be put a little deeper each furrow as you recede from the trees.

If you have not manure to spare, spread on old leached ashes, at the rate of about one hundred bushels per acre, or half the quantity of unleached ashes; and if a bushel or so of plaster, and ten to twenty bushels of lime were added, so much the better. Let these be harrowed thoroughly in, and the ground worked into as good tilth as possible. Then sow the land to peas, and when in blossom, plow them in. The ashes, lime and plaster furnish all the mineral elements required by the trees—and of which the soil has probably been impoverished by the removal of the fruit—and the peas will supply a large amount of organic matter. By growing nothing among the trees for a year or two, and keeping the ground clean, sowing a non-exhausting crop and plowing it under, the soil may be rendered very rich, and the orchard fruitful.

We have been asked whether Peruvian guano would be good for an old apple orchard, the soil of which is sandy. We have no doubt it would prove beneficial. Peruvian guano, however, though it contains more or less of *all the elements of plants*, is comparatively deficient in potash and soda. Many sandy soils are naturally poor in these alkalies, and the removal of the apple crop from year to year, and of the other crops which are—but should not be—raised and removed from the land, also carry with them large quantities of potash and soda, so that it is probable that, relative to other plant food, these sandy soils on which apple orchards have stood for many years, are deficient of that which Peruvian guano, of

all natural manures, supplies in least quantity. If the orchard could have a dressing of fifty bushels of unleached ashes, per acre, and an equal quantity of lime plowed under early in the spring, and then a top dressing of two hundred pounds of Peruvian guano, sown broadcast and harrowed thoroughly in, and be then sown to peas, which are plowed under when in blossom, or eaten off, on the land, by hogs, the soil would be more speedily enriched than if the guano had not been used. Still, plowing under a good coat of barn-yard manure, will, in most cases be a cheaper mode of renovating the site of an old orchard than any other plan we can think of.

IS THE CULTIVATION OF FRUIT ON A MORE EXTENDED SCALE DESIRABLE?

The answer to this question appears so self-evident, that after stating a few facts, but little remains to be said.

First, an abundance of good ripe fruit is admitted by all physiologists to be eminently essential to the preservation of health. This being the case, it becomes the duty and privilege of every one owning a spot of land, however small, (if not otherwise more profitably employed) to cause it to produce fruit in the greatest quantity, and of the best quality, so that, after his own wants are supplied he may have some to spare for those whose circumstances prevent them from producing it themselves.

At present the supply of good fruit is so limited that mechanics and others depending on their labor for maintenance are compelled to use an inferior article, unripe and unwholesome, or to do without. In either case the health suffers, and the affluent do not enjoy it as fully as would be desirable.

The objections often urged against fruit-growing that it is a business which does not immediately make profitable returns, and that it is uncertain and precarious, are prompted by ignorance. The more common and hardy kinds, as the apple, pear, grape, &c., are easily raised, and with less real hard labor than most of the grains or vegetables. Procure a good variety, plant it with care, and a very little trouble thereafter will insure success.

The glutting of the market is another bugbear. This, it must be admitted, has sometimes been the case in plentiful years, in the neighborhood of orchards, while, at the same time, thousands at the West, and elsewhere, have suffered for want of the surplus. The remedy for this will be found in a better knowledge of the benefit to health derived from the daily use of fruit, (instead of being considered an extravagant luxury,) and also in the increasing means of transportation.

In the case of this, as in that of every other article of real value, the demand will keep pace with the supply.

Then let every landholder "plant a tree," if no more, take proper care of it, and let no one dissuade from planting largely, and with the spread of light and knowledge, he will find an increasing demand for his crops at just and remunerating prices, himself and the world being mutually benefitted.

CROCKETT.

ALL paths should be clean, and the edges of beds and borders should be even; the paths, and the beds and borders, should be well defined, and paths kept high and dry in the middle.

THE YELLOW LOCUST TREE.

One of your correspondents asks "how to raise the locust tree from seed, the time to plant, etc." I offer you the following answer:

Get the seeds from the trees in the fall, (though they sometimes remain on the trees uninjured over winter,) and keep in a cool, dry place until spring. If kept *warm* and dry they will not vegetate as certainly and speedily. This is true of all hard-shelled seeds. Prepare the ground as for corn, and any soil fit for corn will grow the locust tree. Mark out drills four feet apart, and plant from four to six inches along the rows. Put the seed in a vessel and pour boiling water upon them; let them stand twenty-four hours, and those which have swollen slightly will come up the first year. Pick these out for planting, and pour more hot water on the remainder, letting the seed stand another day, when the greater part will be ready for use. Cover about one inch deep with mellow soil, and the plants will soon appear. May is the proper month in which to plant.

The cultivation should be such as is given to root crops. Keep the ground mellow, and free from weeds. Some of the young trees will be fit to transplant the next spring, others a year later. Give them a fair chance, and they will grow and do well, unless, as in some localities, the borer attacks them.

As a rapid-growing timber tree, the locust is of high value. No other hard wood can be raised as quick—at least, we are acquainted with none. Its use for posts, for carpenter work, for fuel, etc., is not very extensive, because, though a few trees are grown in almost every neighborhood, it is seldom found in any quantity, to supply such demand. It would be well to plant it more extensively, to fill up the waste corners of our farms with it. Once planted, it propagates itself by sprouts and suckers, and retains possession of the soil, unless special pains are taken for its eradication. M. L. J.—*Dec.*, 1856.

PEACHES.

The December number of the *Genesee Farmer* is at hand. In the proceeding of the Pomological Convention, on the discussion on Peaches, the merits of the Tillotson was discussed. There seem to be different opinions as to its qualities. With me it has always done well, and is considered the best early peach we have, ripening some days before the Early York in the same situation. I received it from the nursery of Thomas & Smith, Macedon, Wayne co., N. Y., several years ago, with a number of other kinds. The original tree is still living and healthy and bears good crops when the winter is not too severe. Varieties differ much in their ability to resist the effects of cold, the soil and situation being the same. I have one variety named Seabolt, which is the greatest bearer I have, a good freestone peach ripening with the White Imperial. The Yellow Alberge is also a great bearer, but not so valuable on account of being yellow fleshed. I have some seedlings that promise to be of great value on account of their season of ripening; one being very early, another very late. The late one is a white fleshed peach, ripe Oct. 1st, and very juicy. We had a fair crop of peaches in this place the past season, notwithstanding the severe winter. ISAAC CLEMENT.—*Halfmoon, Saratoga Co., N. Y.*

COTTAGE RESIDENCE OF W. H. ASPINWALL, STATEN ISLAND

SPECIMEN OF AMERICAN LANDSCAPE AND GARDENING

We extract from DOWNING'S *Landscape Gardening and Rural Architecture*, the accompanying engraving of the beautiful cottage residence of W. H. ASPINWALL on Staten Island. It is a fine specimen of American Landscape Gardening.

The house is in the English cottage style, and from its open lawn in front, the eye takes in a wide view of the ocean, the narrows, and the blue hills of Neversink. In the rear of the cottage the surface is much broken and varied, and finely wooded and planted. In improving this picturesque site, a nice sense of the charm of natural expression has been evinced; and the sudden variations from smooth, open surface to wild, wooded banks, with rocky, moss-covered flights of steps, strike the stranger equally with surprise and delight. A charming greenhouse, a knotted flower-garden, and a pretty, rustic moss-house, are among the interesting points of this spirited place.

TO PREVENT GIRDLING BY MICE.—A correspondent in Riley, Iowa, gives the following as an effectual preventive for the depredations of mice and rabbits on fruit trees, which, perhaps, is worth trying, although we doubt its efficacy. It is as follows: "Select some fine young crab-apple trees, and plant them out in rows where you wish your orchard, and wait till they get well growing. Then select your scions, and at the proper season graft the trees, and in due time you will have an orchard of trees which neither rabbits, mice, or any other animals will girdle or bark. If any one doubts the above, let him try the experiment on one tree.' D. F. K.—*Riley, Vigo county, Iowa.*

CURE FOR GOOSEBERRY MILDEW.—Scrape off the rough bark in the spring, before the buds swell, and apply soft soap freely to the bushes and roots, as far as you can reach them; afterwards, a few times washing them, while the fruit is growing, with soap-suds. Watering young plants a few times in the summer, will prevent the mildew. L. FAIRBANKS.—*Whitby, C. W.*

HINTS FOR THE MONTH.

JANUARY is not a month in which much work can be done in the open garden; but in mild weather, the pruning of hardy trees may be proceeded with. The pruning of fully developed garden or orchard standard trees, will consist merely in cutting away any wounded or broken branches that may have happened in the gathering of the fruit, by the ladder or other means; and the cutting out of all shoots that may have been produced in the fork or up the main arms or in the middle of the tree. Do not allow the middle of the tree to become crowded with twiggy and useless wood; it chokes up and impedes the free circulation of air among the leaves and fruit, and obstructs the action of the sap, (so essential to the full development of fine healthy leaves and fair fruit,) in the main branches. A convenient and easy method of cutting out these little branches in the middle of the tree is, to take a sharp chisel, on a handle five or six feet long, place the edge of the chisel on the under side of the branch and close to the tree, then a smart tap with a mallet will take it off at a blow. Cut away any pieces that are crossing or chafing each other. Always make the cut from the under side of the branch and slanting upwards, so that the wet may not lodge upon the wound. I am greatly of opinion that the spot and rust which we see so much of, upon the surface of so many poor specimens of apples, is owing to poor cultivation of the soil and neglect in careful pruning.

Attend to the mulching of young and newly planted trees, and if snow has collected about them either throw it away or tread it down hard, or mice are apt to work beneath and girdle the trees.

This is, also, the time to mend and repair garden tools, paint watering cans, and paint and repair hot-bed frames and sashes. JOSIAH SALTER.

FLY ON CHERRY TREES.—I was once told by a friend that burning brimstone under cherry trees, while in bloom, will preserve them against the fly which deposites its eggs in the young fruit, thereby destroying the product of the tree for the season. Have any of the readers of the *Genesee Farmer* tried it, and with what result? D.—*Gates.*

THE CINERARIA.

THE CINERARIA.

This beautiful plant cannot be overlooked at this season, flowering as it does so profusely through the winter months, and looking so cheerful, with its gay, handsome flowers. The name "Cineraria," is derived from *Cineres*, ashes, in reference to the downy or ashy appearance of the leaves. It belongs to the natural order *Asteraceæ*, and is nearly allied to our common wild Asters or Starwort.

The plant is generally propagated by offsets, after it has done blooming, which will be in the spring. The pots should be placed in a dry sheltered place, and watered moderately. As soon as the offsets make their appearance and have made two or three large leaves, they should be carefully detached, taking care not to injure the roots; plant them in small pots in a mixture of good turfy loam, leaf mould and sand, with a little old cow dung; then place them in a cold frame, and shade them from the light for about two weeks, and then about another week from the bright sunshine, and they will then be well rooted and ready for a shift into larger pots.

When they have finished their growth, and the flower stems begin to appear, they should be brought as near the light as possible, and if care is taken, all will be well. Should the green fly make its appearance on the plants, they may be easily got rid of by smoking with tobacco, taking care not to give them too strong a dose.

The following list will be found to include nearly all the best varieties in cultivation and may be relied upon: Brilliant, Catherine Hayes, Cerito, Empress Eugenie, Garland, Lady Camoys, Lady Hume Campbell, Lord Stamford, Madame Sontag, Mrs. Sidney Herbert, Picturata, Prince Arthur.

The leaves of plants should invariably be kept clean and free from dust; if they are not, you cannot expect success in plant-growing. The leaves of a plant are like the lungs of an animal; they must be kept free, or it will die of suffocation.

TEH VIOLET AND ITS VARIETIES.

The Russian violet is certainly one of the most delightful little flowers, and often comes at the most unpromising time of the year; but those who want to be always plucking violets should have all the leading varieties. The Neapolitan, the double purple, the tree violet, (so called, but we could never see why, unless a strawberry can be called a tree,) and the Russian, are leading sorts; and although any one of them may be sufficient for some people, the whole and even more should be grown, because some one or other of the sorts may be brought to flower at all times. The violet loves the shade, but it wants air and its share of water. It can be forced without difficulty in a one light box, either planted or in pots; and we prefer pots, because they can be regulated in quantity and as to season by bringing in a few at a time, or at all events by a supply from out of doors. As soon as one lot goes out of bloom, they can be removed to make way for others. One box full may have slight bottom heat, another may have none, but the sort which is best worth keeping in succession is the Neapolitan, because its blooms are pale blue and very handsome, and there should be always a few of these to bunch up with the darker varieties and with the white. There is no flower more manageable.

Thinning of Fruit often makes all the difference between a fine crop and none, chiefly because the crop, when too thick, does not get all the support it ought to have, and all fails together; whereas by dint of attention and timely thinning the crop to half, or a third, or even a fourth of what there was originally, it would meet with a correspondingly improved sample, and all saved and ripened well. This should be carried down to gooseberries and currants.

By properly checking the growth of a plant, you increase the vigor of its leaves, and size of the fruit.

EUGENIA UGNI

This new fruit bearing shrub was introduced into England from South America, and from thence to this country. It is nearly allied to the common Myrtle, and is apparently about as hardy. It produces a berry as large as a black currant, which is said to equal in flavor a peach or pine apple. It belongs to a family of plants named after Prince Eugene of Saxony, of the natural order Myrtaceæ. It has stood several severe winters in England, without being hurt

by the frost, but it will not prove hardy in the States much farther North than Washington. It will, nevertheless, be valuable for greenhouse culture, in the North, on account of the excellence of its fruit. In habit it is very graceful, with delicate, globular, white flowers, and, like the myrtle, is an evergreen. The fruit is jet black, about the size of a large black currant, and produced very profusely. In the private gardens of Valparaiso the fruit is grown expressly for the dessert, and is much esteemed. The engraving will show at a glance the habit and appearance of this really beautiful and useful plant.

DAHLIAS.—Those who are keeping dahlias in their cellars, should at this season examine them, and see if they are heating, or if there is any moisture accumulating on them. In either case, repack them, after drying them in a room where the temperature is from 60 to 65 degrees.

GLASS FOR GREENHOUSES, &c

EDS. GENESEE FARMER:—The italicised portion, terminating the remarks from *Turner's Florist*, see page 349, on "different kinds of glass for garden structures," is somewhat contradictory from past experience, supposing each kind of glass was subject to precisely the same treatment, or rather, the plants under the glass. Of this, we are left in the dark, although it is highly probable they were not. For instance, the superiority of the rough plate glass, and perhaps the corrugated glass, as well, consists in its power of admitting all the rays of light; the clear, or crown glass, will, while it stops the burning rays, thus doing away with the necessity of using shading in in hot sunshine; besides which, the two first-named kinds are stronger, and being so are less likely to break from frost, hail, &c., thereby effecting a saving, other things being equal.

It is presumed that in the trial both the sheet and crown-glass were shaded, and the others not; and that, as no perceptible difference could be discerned that, for reasons above given, the rough plate glass and corrugated glass are to be preferred for all horticultural structures, where it can be obtained. Unfortunately, from the little call for these articles, as yet, in this country, they cannot be got short of importing expressly, or except at high prices; but there are some few examples, and amongst them we remember a large greenhouse at the Flushing nurseries of the Messrs. Parsons. Perhaps some one, from experience, in this sunny country, will set us right on this matter.

THE MONSTROUS FUCHSIA—Of which you give us an illustration in last month's issue, is almost, if not quite, a counterpart of one plucked the last season, from the variety called *Duchess of Lancaster*, cultivated in the greenhouse at this place. It had the resemblance of three flowers joined in one, and was the most striking monstrosity of the kind we ever saw, although it is, by no means, rare to meet with those of smaller dimensions on the Fuchsia, when under high cultivation. They are an interesting feature of botanical inquiry at all times, and well worthy of attentive study. EDGAR SANDERS.—*Albany, N. Y., Dec.*, 1856.

MICE AND FRUIT TREES.—During the past winter many young fruit trees suffered from the depredations of mice; hence, it may be well to look out for the present winter, and try to protect them. I have had some very bad luck in wintering young orchards, but I think I have found a good remedy in this case. If your trees are set in orchard form, you may make an ointment of hog's lard and assafœtida; a piece of assafœtida, the size of a butternut, in a quart of melted lard, will be sufficient to wash seventy-five trees, or more, according to size. Let this ointment be rubbed with a woolen cloth on the body of the tree, one foot and a half from the ground; then hill up the earth around the tree, at least ten inches, and if the dirt is wet, and pounded down with a large wooden mallet, it will help to keep the mice from the roots of the tree. In the spring, as soon as there is to be no more snow, remove the hill of dirt, then wash the tree down with ley, from common wood ashes, or potash dissolved in water; this will remove the oily substance from the body of the tree, and promote good health generally. A. L. SMITH.

WINTER FLOWERS FOR ROOMS, &c.

It is really surprising that so few Flowers are seen to be used for Winter adornment of rooms and houses, when so many can be brought into requisition by using a little spare time. Of late, Pompone Chrysanthemums have been much in vogue for the adornment of greenhouses in winter, and nothing can be more simple than the culture of a few of them for rooms. Plants bought in the spring, may be turned out into the garden border all the summer, and no extra care need be taken of them. And if properly lifted and potted in the autumn, by giving them only ordinary attention they will amply repay the trouble, by the profusion and delicate beauty of their bloom; after which they may be stowed away till spring, to be turned out again to make new growth. The collection of these really beautiful little plants at Messrs. Ellwanger & Barry's, of this city, is, I think, unrivalled in this part of the country, if not in the States. It is worth a walk of ten miles to see them. Such variety of color, such profusion of bloom, and such perfect beauty both in the flowers and habit of the plant, are not to be excelled by any ordinary thing; and as they are so easy to cultivate, they ought to be grown by everybody having any horticultural taste at all. I give a list of a few of the best, viz: Asmodea, Circe, Criterion, Daphnis, Eliza Mielliez, Gitano, Jongleur, Sylphide, Perfecta, La Radicuse, Modele, Mignonette, Bob, Burnettianum, Aurora Boreale.

The larger flowered kinds may also be used to great advantage, if lifted before the coming on of frost. Several of my friends have adopted this method, and potted some, and they now make a splendid display; whereas if left out they would have made none at all. And another great thing is, that they flower early in the season, and by the time very cold weather sets in they need no care at all, at the time when frost is most likely to get into a house.

If people have plenty of room and a little patience, Spireas may be made available, for they force admirably. Prunifolia, Lanceolata and others will flower well in the house, if lifted properly in the fall and cared for in an ordinary manner. The new Spirea callosa, I think, will prove admirably adapted for winter flowering. Camellias are recommended by some; but I think, that without great watchfulness and care, they always prove a failure, as the buds are so extremely liable to drop, either from being allowed to get too dry, or from excessive moisture, or from sudden changes in the temperature, and they are also very apt to be discolored by smoke and dust. Daisies make very pretty window plants, and by selecting suitable kinds one may have a very pretty show all the winter. Verbenas, if properly managed, make a fine display; but they must have plenty of air and light, and not too much water, or they become spindled and straggling. Scarlet Geraniums, also, if properly lifted and potted, without being checked much, make a good show. I have one now which promises to be gay all the winter long, with its splendid scarlet flowers. Tom Thumb and Ingram's Dwarf will be found best for this purpose. The dwarf Double-flowering Almond and the New Deutzia gracilis and Wall Flower, are very fine, if properly managed; and numerous other things may be made to gratify both the grower's taste and ambition, with very little trouble.

All the foregoing should be lifted in the autumn, before they are injured by frost, and brought into a warm place. Water sparingly till the buds begin to break, and gradually increase, as the plants advance in growth. It is very necessary to give them all the light possible. W. T. GOLDSMITH—*Rochester.*

CULTIVATION OF PEAS, &c.

EDS. GENESEE FARMER:—Your article, headed "Premiums for Short Essays," has just attracted my attention. Among the subjects suggested by you I observe one "on the cultivation of peas." I have had singular success in the cultivation of that vegetable and if others will adopt my method, they will find it a most advantageous one. It is as follows:

Dig a trench of one foot deep, and then fill it again with good soil taken from *the surface*, to within six inches of the top. This, of course, leaves the trench still six inches deep. Plant the peas in the trench thus prepared, and cover them with six inches of good soil, also taken from the surface. By the time the peas come up the trench will have settled about two inches, and this is to be brought nearly even by subsequent hoeings. I say nearly even because there should always be, in our dry climate, a hollow left to catch and hold the rains.

Now for the results. The peas will make their appearance notwithstanding the great depth of planting; there need be no fear about that. They will grow rapidly when started, will not be affected by drought, and will bear *three times as long, and more than three times the quantity* of peas planted in the ordinary way. There will be blossoms and mature fruit on the vines at the same time, and the vines will not put on the *usual* yellow, sickly appearrnce *at the roots* which is so soon followed by the drying up of the whole stock. If the soil is free from clay, it is better to cover them eight inches, even, rather than six.

Let those try the experiment who have been accustomed to plant in the ordinary way, and they will rejoice that they were subscribers to the *Genesee Farmer.*

Now, Mr. Editor, will you or some of your readers inform me of the best method of preparing and using the white *shell* marl so common in this State. I have a large, and I have no doubt valuable bed of it on my farm, but I have injured almost everything I have put it on, because I did not know how to prepare it. I have been told that by letting it lie two or three years exposed to the sun and frost, that it will be valuable; but if any of your readers know of a method by which I may save all that time, I should be obliged. P. M.—*Newburgh, November* 29, 1856.

THE GARDEN.—No land pays a higher rate of interest than the humble, despised garden. The quantity of vegetables which it can be made to produce almost exceeds belief; and farmers may well open their eyes when told that under good management two acres of a garden will be more profitable than twenty acres of a farm as it is usually conducted. In the vicinity of cities and large towns, the raising of vegetables for market is conducted on a large scale, and is very lucrative, and even the poor man can, by his own labors at odd times, secure an abundance of food for his family, which is as good as money saved as well as earned.

LEGUMINOUS SHRUBS.

There are several very showy and graceful flowering shrubs commonly met with in the gardens of Europe, which fail to succeed in our climate, and for several reasons are not prominent in our shrubberies. Many travellers, and even residents of our country who have been brought up in Europe, are at a loss to know why certain favorite shrubs, familiar to them at home, are not cultivated here. The difference of climate in a measure accounts for this but in addition to this, certain tribes of plants are subject to the ravages of insects, which renders them difficult of cultivation, and detracts from their beauty.

The tribe of *Leguminosæ* embraces several very popular shrubs, which, although hardy enough to withstand our climate, are infested with the red spider, and prove sickly.

The Laburnum

The Laburnum is one of these, of the form of which, the accompanying cut will convey an idea. The Laburnum is called the "Golden Chain" by some amateurs, as it is furnished with long pendulous racemes of bright yellow papilionaceous, or butterfly-shaped flowers, which are succeeded by pods or *legumens*, from which the term Leguminosæ originates.

Two varieties of the Laburnum (*Cytisus Laburnum,*) are cultivated in our gardens and nurseries: one English and Scotch. In some sections of the country the Laburnum succeeds pretty well as a flowering shrub, but seldom attains that luxuriance which in its native country, makes it desirable and attractive. The Broom (*Cytisus Scoparium,*) is another of this tribe, and is, also, comparatively rare in this country The Furze, (*Ulex Europæus,*) one of the most common English shrubs, will not withstand our climate, though with care and protection it succeeds partially in the middle States.

The Caragana, which forms a beautiful dwarf flowering shrub, we seldom see here; there are several species of this family which produce their crowds of pretty pea flowers. To compensate for the want of these leguminous shrubs, we have the locusts, which, both as trees and shrubs, are useful and attractive. R. R. S.

EVERBEARING RASPBERRIES.

Thomas Rivers, of Sawbridgeworth, Herts, Eng. says of the Autumnal Raspberries, in the London Gardeners' Chronicle:

"I have had such an abundant crop of these all last month and up to the present time, for even now the canes are full of fine fruit, that a few words about their culture may perhaps be useful. There are four varieties more particularly worthy of notice. Rogers' Victoria; Merveille des Quatre Saisons, yellow; this is large, sweet and excellent; Merveille des Quatre Saisons, red; this is about the size of the Red Antwerp, and very good; Large-fruited Monthly, or to give its long French name, "Framboisier de tous les mois a tres gros fruit." The first is a sort sent out many years ago by a Mr. Rogers, then of King's Road, Chelsea; it is rather dwarf, not of very robust habit, and yields fruit nearly all through September. The second and third have their fruit on very long spikes and bear most abundantly al through October, and until destroyed by the frost. Their culture is very simple, as they merely require being planted in rows about the same way as the summer raspberries, and cut down close to the ground early in March. No canes to bear in summer should be left, for the fruit they yield then is small and inferior to the summer varieties; in autumn their fruit is large, and of excellent quality. The fourth sort requires a different mode of culture, for unless the soil is very rich and moist it ceases to bear in the autumn if suffered to grow more than one year without removal; the canes should therefore be taken up every season any time during the winter, but not later than February, and planted on a fresh piece of ground, or on the same ground well manured, and then cut down close to the ground, leaving only one bud above the surface; under this treatment, they will yield an abundant crop in autumn, till November, of fine large fruit, and well repay the trouble of transplanting."

There have been many complaints lodged against the autumnal Raspberries in this country, and the cause of such bad success is evidently a lack of knowledge of the treatment required. If they are treated in the same manner as Mr. Rivers describes, success will undoubtedly be the result. The Large Fruited Monthly will require the same treatment as the three first. Eds.

A SMALL COLLECTION OF FIRST-RATE ROSES.

The following varieties will form a collection which cannot be beat: LaReine, a splendid rose, beautifully cupped. Giant of Battles, a first-rate imbricated variety, of a brilliant color, nearly scarlet, habit dwarf, and every way desirable. Sydonie, a very good variety, nicely cupped, of good color, with a curious leafy calyx, very distinct. Eugene Sue, a beautiful, new, light-colored kind, cupped, of good form and habit of growth, worthy a place in every good collection. Victoria, with good culture is one of the very best roses in cultivation; but it must have good treatment. It is, decidedly, the best light colored hybrid perpetual rose we have. William-Jesse, is a very showy rose of good color, but indifferent form; it is too flaccid in its texture, and soon falls to pieces; it is, however, worthy of very general cultivation. William Griffith is a superior variety, of good color, and form unsurpassed. It should be in every collection. Baron Prevost is a good, showy rose, although not equal to some of the foregoing.—W. T. Goldsmith.—*Rochester, N. Y.*

Ladies' Department.

INFLUENCE OF WOMAN IN OUR SOCIAL IMPROVEMENT.

The lamented Downing well observes in one of his elegant leaders in the *Horticulturist*, that the 'Farming class in America is not a rich class—but neither is it a poor one—while it is an independent class. It may and should wield the largest influence in the State, and it might and should enjoy the most happiness—the happiness belonging to intelligent minds, peaceful homes, a natural and independent position, and high social and moral virtues. We have said much, already, of the special schools which the farmer should have to teach him agriculture as a practical art, so that he might make it compare in profit, and in the daily application of knowledge which it demands, with any other pursuit. But we have said little or nothing of the farmer's *home education* and social influences—though these perhaps lie at the very root of the whole matter."

We are not ignorant of the powerful influence of *woman* in any question touching the improvement of our social and home education. In fact it is she who holds all the power in this sphere; it is she, who really, but silently, directs, controls, leads and governs the whole social machine—whether among farmers or others, in this country. To the women of the rural districts—the more intelligent and sensible of the farmers' wives and daughters, we appeal, then, for a better understanding and a more correct appreciation of their true position. If they will but study to raise the character of the farmer's social life, the whole matter is accomplished. But this must be done truthfully and earnestly, and with a profound faith in the true nobility and dignity of the farmer's calling. It must not be done by taking for social growth the finery and gloss of mere city customs and observances. It is an improvement that can never come from the atmosphere of boarding schools and colleges as they are now constituted; for boarding schools and colleges pity the farmer's ignorance, and despise him for it. It must, on the contrary, come from an intelligent conviction of the honesty and dignity of rural life; a conviction that as agriculture embraces the sphere of God's most natural and beautiful operations, it is the best calculated, when rightly understood, to elevate and engage man's faculties; that as it feeds and sustains the nation, it is the basis of all material wealth; and as it supports all other professions and callings, it is intrinsically the parent and superior of them all. Let the American farmer's wife never cease to teach her sons, that though other callings may be more lucrative, yet there is none so true and so safe as that of the former,—let her teach her daughters that fascinating and brilliant as many other positions appear outwardly, there is none with so much intrinsic satisfaction as the life of a really intelligent proprietor of the soil, and above all, let her show by the spirit of intelligence, order, neatness, taste, and that *beauty of propriety*, which is the highest beauty *in her home*, that she really knows, understands, and enjoys, her position as a wife and mother of a farmer's family. Let us have but a few earnest apostles of this kind, and the condition and prosperity of the agricultural class, intellectually and socially, will brighten, as the day brightens after the first few bars of golden light tinge the eastern horizon.

HINTS FOR HOUSEWIVES.

Cheap Dye.—Chestnut bark boiled in water, in an iron vessel, makes a kind of stone color more permanent for either cotton or woolen goods than some more expensive dyes. Dip the goods in a solution of copperas and alum, in water, then in the dye; stir constantly until the color is deep enough, and dry before washing.

Apple Pudding.—Put a pint of sour, sliced apples in a small pudding dish, and cover with a batter made of one cup and a half of sour cream, one egg, two cups and a half of flour, and a tea-spoonful of saleratus. Bake three-quarters of an hour; eat with cream and sugar.

White Cup Cake.—One cup of white sugar, one half cup of butter, the whites of four eggs, half a cup of sour cream, half a tea-spoonful of saleratus, and three cups of flour. Or, one cup of sugar, one of butter, the whites of eight eggs, and one cup of flour.

To make Yellow Butter in Winter.—Put into the cream, just before churning, the juice of grated carrots, and it will improve not only the color, but the quality of the butter.

Fried Cakes.—One cup of sugar, one of sour cream, two eggs, a tea-spoonful of saleratus dissolved in half a cup of boiling water, and a little cinnamon or nutmeg.

Buckwheat Cakes.—Buckwheat cakes are improved by soaking and mashing fine the cakes left at one meal, and putting them into the batter for the next. H. M. D.—*Ganesvoorts, N. Y.*

How to make Farm Life Attractive.—"What can mothers and daughters do to make farm life attractive to their sons and brothers, and prevent them from leaving the farm to engage in mercantile or professional pursuits?"

By manifesting an interest in all their business. By holding up before them, at all times, a preference for a good farmer, before any other profession. By inciting in them a love for the beautiful—the beauty of flowers, the grandeur of a tree—and at all times speaking of it as most conducive to good health as well as good morals, and as being the most congenial to reflection, religion and study, as well as every part that is manly and noble.

By manifesting a love for the domestic animals, remarking on the handsome parts of this horse, and that cow, fineness and beauty of wool, and of the sheep, &c.

By making little coteries, or visiting parties, introducing historical and benevolent societies, and inviting them to join you; for, many times, it is the lack of excitement, in the quiet, every-day routine of life that makes them dissatisfied.

Coleman informs us that English ladies do all this and much more, and that the happiness and respectability for which the English Farmers are proverbial, are attributed to the interest women manifest in the profession. M. S. B.

Editor's Table.

Our January number, the first of the New Year, 1857, is now before you, kind reader. Thanks to our numerous and experienced correspondents, it is worthy of your careful examination. We feel proud of the paper, and think you will agree with us that no one need be ashamed to show it to his neighbors and ask them to help sustain the cheapest agricultural journal in the world by sending in their names and thirty-seven and a half cents to the publisher.

From all parts of our extended country we receive daily indications of the good-will of many true *friends of Rural Progress*, who are doing their best to circulate sound agricultural literature in their respective neighborhoods. The letters we receive, and, not less, the $3 for a club of eight which accompanies most of them, encourage us to spare no efforts to make our paper worthy of the encomiums bestowed upon it, and to hope that as our circulation nearly doubled last year, we shall be able to chronicle a still greater increase during the present year.

We are free to confess that were it not for the voluntary and disinterested labors of the friends of agricultural improvement in this country and in Canada, who have done so nobly in extending our circulation, we could not afford to furnish so good a paper at so low a rate. Our paper costs as much as the dollar monthlies, and more than some of them, and it is easy to see that our circulation must be very large in order to make a fifty cent paper as profitable as a dollar one.

For instance, supposing the actual cost of the paper to be thirty cents, and the lowest club term to be thirty-seven and a half cents, in the one case, and sixty-two and a half cents in the other, the dollar paper makes more than *four times* as much as the fifty cent paper. The dollar papers, therefore, make more with five thousand subscribers than we do with twenty thousand. Nevertheless, we are anxious to provide good agricultural reading at such a low rate as to be within the reach of all; and as long as our efforts are sustained as they have been, we shall spare no pains to make the *Genesee Farmer* the *best*, as it certainly is the CHEAPEST agricultural and horticultural journal in the world.

It has been intimated that the reason why we can afford to make so cheap a paper is because we are engaged in other business, and use the paper as an advertising medium. *This is a malicious falsehood.* There is no one connected with the paper that has the remotest interest in any business whatever. The principal editor of this paper was born and brought up on a farm, and has spent his whole life in agricultural pursuits and studies till he took the editorial chair in the office of the *Genesee Farmer*, in November, 1851. Since that time he has devoted himself to writing for the agricultural press; and it may not be amiss to state as a fact showing the great interest felt in agricultural literature, that last year he had an engagement with one of our shrewdest publishers to furnish matter, at a far higher rate than is paid by the great British Quarterlies, which are supposed to remunerate their contributors better than any other periodicals in the world. There never was a time when good agricultural reading was so much sought after as at present; and we are under no necessity to engage in any other business than that of endeavoring to make a good farmer's paper. We have never had any other business—except farming—and as long as our paper is sustained as well as at present, we shall devote ourselves exclusively to its interests, and those of its readers.

UNITED STATES AGRICULTURAL SOCIETY.—The fifth annual meeting of the United States Agricultural Society will be held at the rooms of the Smithsonian Institute, in the city of Washington, D. C., Jan. 14, 1857, at ten o'clock, forenoon.

Business of importance will come before the meeting. The report of the Exhibition at Philadelphia, and the journal of the society for 1856 will be distributed to the members present. At the same time, awards of Premiums on Field Crops will be made; the officers of the society for the ensuing year, elected, and the propositions which have been received in relation to the fifth annual exhibition, acted upon.

A lecture will be delivered on the application of Science to Agriculture, by Professor HENRY, of the Smithsonian Institute. Another lecture on the Grasses of the United States will be given by CHARLES L. FLINT, Esq., Secretary of the Massachusetts State Board of Agriculture.

Other lectures and interesting discussions are expected on subjects pertaining to the objects of the Association.

The various Agricultural Societies of the United States are requested to send delegates to the meeting, and all gentlemen who are interested in the welfare of American Agriculture, who would promote a more cordial spirit of intercourse between the farmers in different portions of our land, are invited to be present.

MARSHALL P. WILDER, *President*,
WM. S. KING, *Secretary*.
December 11, 1856.

EXTRACTS FROM COMPLIMENTARY NOTICES.—Prof. J. A. NASH, of the *Plough, Loom and Anvil*, says:

"The *Genesee Farmer* is one of the oldest, the cheapest, and in our view, one of the *best* monthlies."

The italics are his own. This is high praise from such a man.

J. W. ALWAY, of Kommoka, C. W., says:

"I would not be without the *Farmer* for three times its price."

E. P. UNDERHILL, of Golden Pond, Ky., says:

"I used to read the *Farmer* when small, and think it is, decidedly, the best agricultural paper published for the masses."

J. N. SHEPARD, of Marion, O., says:

"I have taken the *Genesee Farmer* for seventeen years, and, like man and wife who have been a long time together, cannot afford to part in old age."

E. A. GRIFFITH, of Boston, Erie Co., N. Y., says:

"Of late I have taken the ——, but have concluded to change back again for the *Farmer*. The —— is too full of music and romance to suit my fastidious taste."

JOSEPH HARRIS, Esq:—I have taken the *Genesee Farmer* for three years, and think it is a very valuable paper and one that ought to be read in every family. I shall endeavor to circulate it among our farmers as much as possible; with little trouble I have formed a club of about forty or upwards; the amount, with subscription, will be forwarded, but your answer is first required how you wish it mailed; it can be registered, if you desire; please answer as soon as my note is at hand. With pleasure I act as your agent, and notwithstanding the various papers published upon the best modes of farming, there is not one, in my opinion, that will be as useful to the farming community as the *Genesee Farmer*; and I hope it will long continue, as it now is, a blessing to all who take it and read it. I remain your Sincere Friend, JONATHAN MILLER.—*Berrysburg, Dauphin Co., Penn., Dec.*, 4, 1856.

TO CORRESPONDENTS.—Many excellent communications have been received too late for this number. They shall appear next month.

Premiums for Short Essays.

In the hope of calling out the opinions of the readers of the *Genesee Farmer*, we have determined to offer a Book of the value of One Dollar, for the best article (not to exceed one page of the *Farmer*) on each of the following subjects:

On the Management of Sheep;
On the Management of Swine;
On the Management of Milch Cows;
On the Management of Horses;
On the Management of Young Stock and Working Cattle;
On the Relative Advantages of Employing Horses or Cattle in Farm Labor;
On Cheese Making;
On Butter Making;
On the Cultivation of Winter Wheat;
On the Cultivation of Spring Wheat;
On the Cultivation of Rye;
On the Cultivation of Barley;
On the Cultivation of Oats;
On the Cultivation of Peas;
On the Cultivation of Beans;
On the Cultivation of Indian Corn;
On the Cultivation of Broom Corn;
On the Cultivation of Millet;
On the Cultivation of Onions;
On the Cultivation of Crops for Soiling Purposes;
On Growing Clover Seed;
On Growing Grass Seeds;
On the Cultivation of Potatoes;
On the Cultivation of Turnips, Ruta Bagas, Mangel Wurzel, and other Root Crops;
On the Best System of Rotation;
On the Management and Application of Barn-Yard Manure;
On the Use of Lime as a Manure;
On the Use of Unleached Ashes as a Manure;
On the Use of Leached Ashes as a Manure;
On the Use of Salt as a Manure;
On the Use of Peruvian Guano as a Manure;
On the Use of Superphosphate of Lime as a Manure;
On the Most Economical Mode of obtaining Fertilizing Matter other than Barn-Yard Manure;
On any Insects Injurious to the Farmer;
On the Advantages of System in Farming Operations;
On the Advantages of Forethought in Farming Operations;
On Cutting Hay, Corn-Stalks, and other Fodder, for Horses and Cattle;
On the Best Means of Destroying Weeds;
On the Management of Permanent Grass Lands;
On Underdraining;
On Subsoil Plowing;
On the Advantages of Stirring the Soil in Dry Weather;
On Irrigating Grass Land;
On the Best Means of Destroying Mice, Rats, and other Vermin
On the Best Plants for Hedges—their Management, &c.;
On the Management of Woodland;
On Planting Trees on the Prairies, for Shelter, Fuel and Timber;
On the Management of a Prairie Farm — Commencing in its Natural State;
On the Best Method of Fencing a Farm;
On the Benefits of Agricultural Fairs;
On the Benefits of Farmers' Clubs, and the Best Plan or their Organization;
On the Influence of Agricultural Papers, and the Duty of Farmers to Write for them.

Horticultural Subjects.—On the Cultivation of Pears;
On the Cultivation of Apples;
On the Cultivation of Peaches;
On the Cultivation of Plums;
On the Cultivation of Small Fruits—Strawberries, Raspberries, Currants, Gooseberries and Blackberries;
On the Cultivation of Cranberries.

The advantages of shelter for Gardens, and the best means of providing it;

For the best answer to the question, "Why do Farmers so generally neglect their Gardens? and the best means of rectifying the evil;

For the best answer to the question, "Is the Cultivation of Fruit on a more extended scale desirable?

On the Management of a Farmer's Garden;

Subjects for the Ladies.—For the best Dozen Domestic Recipes;

On the Cultivation of Flowers;

For the best reasons why our Agricultural Societies should *not* offer premiums for a public exhibition of Lady Equestrianism;

For the best article on the other side of the Question;

For the best answer to the question, "Is a residence in the Country or City most conducive to high mental culture, beauty of person, health, happiness and usefulness?"

For the best answer to the question, "Is it right to ask the women folk to milk the cows during the busy season? (*Open to both sexes!*)"

On drying Apples, Peaches, Plums and other Fruit;

For the best answer to the question, "What can mothers and daughters do to make farm life attractive to their sons and brothers, and prevent them from leaving the farm to engage in mercantile or professional pursuits?"

It is desirable that the articles be as *short* as possible,—It is far more difficult to write a short article than a long one; *and other things being equal*, brevity will be considered as a mark of excellence. Write only on one side of the paper, and be sure and do not have the lines too close together. Many persons, to save a cent's worth of paper, put us to a dollar's worth of trouble in preparing their manuscript for the printer, and all because it is written too closely. Those who are not in the habit of writing for the printer, should write on ruled paper, *and skip every other line.*

The articles will be submitted to competent judges, and the premiums announced and paid as soon as they make their decision. *All articles must be sent in by the first of February.*

Ohio State Board of Agriculture.—At the Annual meeting of the Ohio State Board of Agriculture, held at Columbus Dec. 3, 1856, the following officers were elected for the year 1857:

President—Alexander Waddle, of Clark,
Treasurer—Lucian Buttles, of Franklin,
Recording Secretary—John M. Milliken, of Butler,
Corresponding Sec.—John H. Klippart, of Cuyohoga.

To Single Subscribers.—Those who have sent us fifty cents for a single copy of the *Genesee Farmer* can have four more copies for $1.50, or seven more copies for $2.50. Those who have sent us $1 for two copies, can have three more copies for $1, or six more copies for $2. We will send the papers to any address or post-office you wish.

THE RURAL ANNUAL AND HORTICULTURAL DIRECTORY, FOR 1857.—This beautiful work, of 144 pages, is now ready.

It contains, besides a great variety of matter interesting to every farmer and gardener, articles on Rural Architecture, with several beautiful designs of cottage, suburban, and farm houses, prepared expressly for the *Rural Annual*: On laying out a small Fruit and Kitchen Garden, with a list of the best varieties of fruits, directions for the preparation of the ground, &c., with a fine engraving: On the cultivation of Strawberries, Raspberries, Blackberries, Currants, Gooseberries, &c., with engravings and descriptions of the best varieties, &c.: On the management of Hedges, with illustrations of the best modes of training, &c.: On the Kitchen Garden: On the management of Grapes in cold houses, with engravings showing the best mode of training, &c.: On planting an Apple Orchard, best varieties for different localities, &c.: On the Architecture of Lodges, School Houses, &c., with two beautiful engravings: On building a Stable, with plan and description: On the breeds and management of Poultry — profusely illustrated: On Ornamental Planting, Landscape Gardening, &c., with numerous illustrations: On the Advantages of Shelter, &c. Also, a corrected list of Fruits recommended by the American Pomological Society, with lists of Nurserymen and Agricultural Implement Makers in the United States and Canadas. The whole comprising a work which for usefulness and beauty should be in the hands of every one interested in Rural Pursuits.

We send it, postage paid, for TWENTY-FIVE CENTS a copy.

In Clubs of Eight, we send the *Genesee Farmer* and *Rural Annual* for FIFTY CENTS the two.

To every one sending us eight subscribers to the *Genesee Farmer*, at the lowest club terms of THIRTY-SEVEN AND A HALF CENTS each, we will send one copy of the *Rural Annual* for their trouble.

OUR JANUARY PREMIUMS.—The names of the successful competitors for our January Premiums will be announced in the February number, and the prizes immediately sent. It is not necessary that the club be sent in all at once. Send on the names as fast as obtained. Read over the premiums, and we think you will be induced to compete for them. If you try, you will be sure of one of them.

FRUIT-GROWERS' SOCIETY OF WESTERN NEW-YORK. The Annual Meeting and Exhibition of this Society will be held in the Supreme Court Room, in the Court House, in the city of Rochester, on Wednesday, January 9, 1857, at 10 o'clock, A. M., when important topics will be discussed, and the officers for the ensuing year elected.

AT many post offices, we have but one or two subscribers. Will not such read over our liberal list of premiums, in the advertising columns, and then get us up a club? There is no way in which a young man can more easily obtain a good agricultural library.

PATENT OFFICE REPORT.—We are indebted to the Hon. JOHN WILLIAMS, and to the Hon. CHARLES MASON, Commissioner of Patents, for the *Patent Office Report* for 1855. We have not space to notice its contents this month.

BACK VOLUMES.—We are entirely out of the volume for 1850. The price of the bound volume is $1 each, and if sent by mail, twenty-five cents additional must be sen to pay postage.

EVERY FARMER SHOULD TAKE AT LEAST TWO AGRICULTURAL PAPERS.—The *Plough, Loom, and Anvil* well says:

"Our opinion is that every farmer should have at least two agricultural papers, one in his own region, and one more distant and general. Intelligence is immensely important to agriculture. A farmer who is feeble in body, and cannot do hard work, will get on better, if read up in his business, than one as strong as Sampson, without that advantage."

We fully endorse this. It is the duty of every farmer to help sustain the agricultural paper published in his own neighborhood, and if it is not good, to try to make it better by communicating his experience; but he should also take a paper that elucidates principles which can be applied in all countries and climates; and it gives us great pleasure to add that we know of no better paper than the *Plough, the Loom, and the Anvil*, edited by Prof. J. A. NASH and M. P. PARISH, Esq., published monthly in New-York price $3 per annum, three copies for $6.

This may be more than many will be willing to pay, and to such we would recommend the GENESEE FARMER. It is so cheap that all can afford to take it in addition to half a dozen other papers. It is a mistake to suppose that it *comes in competition* with other journals. It occupies a field to itself, and has done more to create a taste for agricultural literature in this country than some of our contemporaries, who are now reaping the benefit, are willing to admit.

TRANSACTIONS OF THE NEW YORK STATE AGRICULTURAL SOCIETY.—We are indebted to the Secretary, B. P. JOHNSON, Esq., for the transactions of the New York State Agricultural Society, for 1856. From a slight examination, we think this the best volume yet issued by this Society. We shall notice more at length in a future number.

MONROE COUNTY FARMER'S CLUB.—We are glad to announce that the Monroe County Agricultural Society have organized a Farmer's Club for the purpose of discussing agricultural and horticultural topics. The first meeting will be held at the Court House, in this city, December 30th. A large attendance is desired.

CHEAP READING FOR FARMERS.—One volume of the *Genesee Farmer* contains 384 pages, the *Rural Annual* 144 pages. In clubs of eight, we send the two for fifty cents. *Five hundred and twenty-eight pages for half a dollar!* Can any one desire cheaper reading?

PREMIUMS. — Read over our list of Premiums for subscribers to our present olume; it is greatly enlarged. The January Premiums are an entirey new feature. No one who tries can fail to take at least one Premium. You may by a little effort get $70; you are *sure* of something.

KIND READER! if you can induce any of your neighbors and friends to subscribe for the *Genesee Farmer* we venture to say they will not regret it. Speak to them at once. We will gladly send show-bills and specimen numbers to any who are disposed to act as agents.

LET all who shall or a good Agricultural Library make a little effort to get subscribers for the *Genesee Farmer*, and they shall have it, and one which they wil not feel ashamed of.

OWING to a deficiency of water, our paper-makers have been unable to furnish us paper for the *Rural Annual* as promptly as usual. We shall, however, be able to fill all orders for the *Annual* in a few days.

Notices of New Books, Periodicals, &c.

THE AMERICAN POULTERER'S COMPANION; A Practical Treatise on the Breeding, Rearing, and General Management of various species of Domestic Poultry. Illustrated with Portraits of Fowls, mostly taken from life; Poultry houses, coops, nests, feeding hoppers, &c. A new edition, enlarged and improved. By C. N. BEMENT, with 120 illustrations on wood and stone. New-York: Harper & Bros. 1856.

This is an exceedingly valuable work, from the pen of one who, from his great experience in the rearing and management of poultry, is abundantly able to impart valuable information on this important subject. Though the excitement about young roosters that could "eat corn off the top of a flour barrel" has, happily, subsided, yet correct information on all matters pertaining to poultry is at all times eagerly sought by those who have sufficient intelligence to appreciate the value of this species of domestic animals; and we are glad that Mr. BEMENT has brought out, at this time, a new edition of his justly popular work. Unlike many "new editions," it is not the old work with a new frontispiece and preface; every line has been revised, and much new and important matter added. It is, in fact, a new book, and one which is alike creditable to the author and the eminent publishing house from which it emanates.—There is an edition with colored plates, which would be a most appropriate gift book in rural circles.

MILLEDOLCIA; A Thousand Pleasant Things. Selected from Notes and Queries. New-York: D. Appleton & Co. 1857.

"Notes and Queries" is the name of a London weekly paper, started in 1849, in which "all who know something—have something to ask—or who can solve something," meet on common ground. It is a periodical of sterling merit, and one of great interest to all who have any literary taste. The present work is the cream of the first twelve volumes of Notes and Queries. A more delightful book has not been published for some time. It is impossible to take it up for five minutes at any time without finding something to interest and instruct. It is a miniature encyclopædia of heterogeneous literary facts and anecdotes, as curious and amusing as they are valuable and entertaining, and which can be found in no other work

RECOLLECTIONS OF A LIFETIME; or, Men and Things I have Seen. In a Series of Familiar Letters to a Friend; Historical, Biographical, Anecdotal and Descriptive. By S. G. GOODRICH. New York & Auburn: Miller, Orton & Mulligan. 1856.

This is a very readable book, in two handsome volumes. The author, "Peter Parley," is, perhaps, one of the most voluminous and popular of living writers; and his "Recollections of a Lifetime" will be perused with no ordinary interest.

DOUGLASS FARM; A Juvenile Story of Life in Virginia. By MARY E. BRADLEY. Edited by "Cousin Alice." New-York: D. Appleton & Co. 1857.

This is a simple, but well-written and interesting story, designed as a gift-book for young people.

HOME AND THE WORLD; by the author of "Souvenirs of a Residence in Europe." New-York: D. Appleton & Co. 1857.

A lady friend who has read this story, pronounces it "very good."

THE PLAY-DAY BOOK; New Stories for Little Folks. By FANNY FERN. Illustrated by Fred. M. Coffin. New-York: Mason & Bro. 1857.

MISSING NUMBERS.—We will gladly supply any missing or damaged numbers of the *Genesee Farmer*, to any who wish to preserve the volume.

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Inquiries and Answers.

SPRINGHALT IN HORSES.—Can any of your readers furnish me a cure for this disease? J. K.—*Kimberton, Crawford Co., Pa.*

SOWING PARSNEPS IN THE FALL.—Have any of our readers had experience in sowing parsneps in the fall. If they have, we should be glad to hear from them on the subject.

(JOHN MCPHERSON, Puslinch, C.W.) Peruvian guano and superphosphate are not for sale in Rochester. LOUDONS' Encyclopædia of Gardening costs $10. There is no American edition. We can send you this or any other book at the publishers' prices.

(H. HILTON, Burgettstown, Pa.) CHINESE SUGAR CANE.—The Chinese Sugar Cane is said to mature anywhere where corn will grow, and to be sure, as a syrup plant, anywhere south of the State of New York. The seed can be obtained from W. P. Orme, Atlanta, Ga.

WARTS ON COWS.—I wish to learn, through the *Farmer*, what will cure warts on cows teats. I have a fine two-year-old, with a wart nearly as large as all of her teats put together. If you will send me a receipt to cure her you will oblige me, and perhaps more of your readers. W. ALVAY.—*Lebo, C. W.*

We have repeatedly published remedies for warts on cattle, and should be glad of the experience of others.

BURNING CHALK:—I must trouble you for a piece of information which I cannot find in any of the books—specific directions for burning chalk. I have a large bank of it, thrown out years ago at my landing, the ballast of some British ship. I propose to burn it as we do oyster shells, in a green pine pen, with alternate layers of wood; but I do not know if it will require more or less heat and time than shells.

Have you ever known a slight dressing of lime—two to two and a half bushels hydrate per acre—applied broadcast, as a remedy for fly. If ave, does it operate to stimulate the growth, or is the solution washed into contact with the maggot? I know a gentleman—two indeed—who testify strongly in favor of the practice. One of them had made repeated comparative trials, and always to his entire satisfaction. *—*Virginia.*

Chalk is a soft variety of lime-stone, or carbonate of lime. It is found in great abundance in many districts of England, but we believe does not exist on this continent. It is used to a great extent, in some parts of England, in its native state, being spread on grass land, in the winter, as we use marl in this country. The action of the frost causes it to crumble to pieces, and it can be plowed under the next spring, or, still better, the next fall. Chalk is burned and converted into quick-lime in the same way as we burn lime-stone, with this difference, that far less heat is required. We have seen half a dozen rude kilns on a single farm. They are generally made on a side-hill, and are nothing more than a chimney made of brick. A quantity of underbrush, or other cheap wood, is placed at the bottom, and the chalk is laid upon it. Then set fire to the wood, and the calcined chalk or lime is taken out at the bottom. We cannot give "specific" directions for burning chalk, and like our correspondent, can find nothing on the subject in the books. Under the circumstances of our correspondent, we should apply it to the land without burning.

Will some of our correspondents give us their experience on the other subject alluded to above?

(M. A. C.) Crushing the Chinese Sugar Cane.—We do not think the Chinese Sugar Cane could be crushed and pressed in an ordinary cider mill, but should be glad to hear from those who have experience in the matter.

Hoven in Cattle.—Can you inform me where I can obtain an instrument first devised by Dr. Monro, and now brought to perfection by Mr. Brae, of the Regent's circus, which is said to be superior to every other method of relieving blown or hoven cattle?

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Will some of our correspondents answer the above?

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Prospectus for 1857.
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